UNS Series

Version 1.00(B3)
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User's Guide

Default Login Details	
LAN IP Address	http://169.254.1.1
User Name	admin
Password	1234

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IMPORTANT!

READ CAREFULLY BEFORE USE.

KEEP THIS GUIDE FOR FUTURE REFERENCE.

Note: This guide is a reference for a series of products. Therefore some features or options in this guide may not be available in your product.

Graphics in this book may differ slightly from the product due to differences in operating systems, operating system versions, or if you installed updated firmware/software for your device. Every effort has been made to ensure that the information in this manual is accurate.

Related Documentation

- Hardware Installation Guide

  The Hardware Installation Guide introduces the hardware features of the UNS Series, how to access the Web Configurator and introduces RAID concepts.

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PART I
User's Guide

1

Introduction

1.1 Overview

Thank you for purchasing the ZyXEL UNS Series.

Making enterprise data storage perform more efficiently can be a daunting task. Adopting the right storage solution will not only reduce the complexities involved in data management, but will also maximize cost savings and increase the operational flexibility within the existing network infrastructure. The UNS Series is a unified Network Attached Storage (NAS) unit that consolidates both NAS and IP SAN characteristics, providing users with file level access and block level iSCSI support for application such as email services or a database. The UNS Series features the following file-based protocols: CIFS, NFS, AFP, FTP, and WebDAV for cross-platform file sharing, giving users on diverse operating platforms access to shared files and directories. The UNS Series also supports multi-level RAID technologies ensuring high data availability and integrity.

1.1.1 Feature Highlights

The UNS Series provides the following major benefits to your business:

- Cost-Effective Backup Solution

With the integration of Amazon S3's online data protection feature, you can easily backup safe copies of your most important data into the claud, which ensures data safety.

- High Reliability

The Z File System (ZFS) of UNS Series provides a robust storage environment by eliminating any data inconsistencies. As ZFS supports the self-healing feature, which enables the storage system to detect silent data corruption and correct any error instantly. Furthermore it also offers snapshot, file systems/volumes cloning, and anti-virus software, which enhances the overall performance of disaster recovery processes.

- Optimized Storage Capacity

With the implementation of thin provisioning, the storage space can be conserved by assigning only what is needed rather than allocating the full amount of space as requested. In addition, it features data deduplication which enables better utilization of both network bandwidth and reduces the amount of storage needed for any sets of files.

2

Web Configurator

2.1 Overview

This chapter describes how to access the UNS Series Web Configurator and provides an overview of its screens.

The Web Configurator is an HTML-based management interface that allows easy setup and management of the UNS Series through an Internet browser.

The following are the recommended browser versions (1280 by 1024 setting is recommended):

- Microsoft® Internet Explorer® 8.0, 9.0, or later
- Mozilla® Firefox® 8.0, 9.0, and 10.0
- Apple® Safari® 4.0 or later
- Google Chrome™

In order to use the Web Configurator you need to allow:

- Web browser pop-up windows from your device. Web pop-up blocking is enabled by default in Windows XP SP (Service Pack) 2 and later.
- JavaScript (enabled by default).
- Java permissions (enabled by default).

Note: The recommended screen resolution is 1280 x 1024.

2.1.1 Accessing the NAS Web Configurator

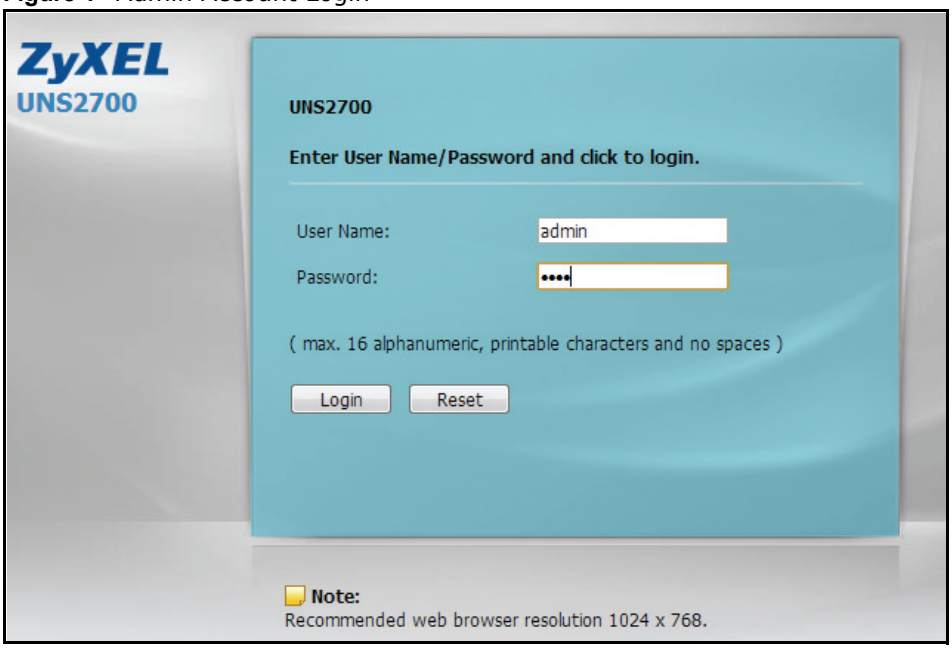
The UNS Series storage system uses a web graphical user interface to operate. It supports most common web browsers. Be sure to connect the LAN cable to the LAN1 port of the UNS Series storage system.

The default IP setting is DHCP enabled. Please connect the LAN1 port to a network switch with an Ethernet cable. If your network environment does not support DHCP configuration, connect the LAN1 port directly to your notebook or PC to initialize the configuration.

Once the device fails to detect a DHCP configuration, a fixed IP 169.254.1.1 with a subnet mask of 255.255.255.0 is assigned to the device. Adjust the network port setting of your notebook or desktop PC to the same subnet with a different IP such as 169.254.1.10. Open a web browser and type 169.254.1.1 to connect to the web UI of UNS system.

http://<*IP Address*> (e.g.: http://169.254.1.1)

Figure 1 Admin Account Login



To access the Web UI, type the default user name **admin** and password **1234**. The home page displays when the correct password has been entered.

3

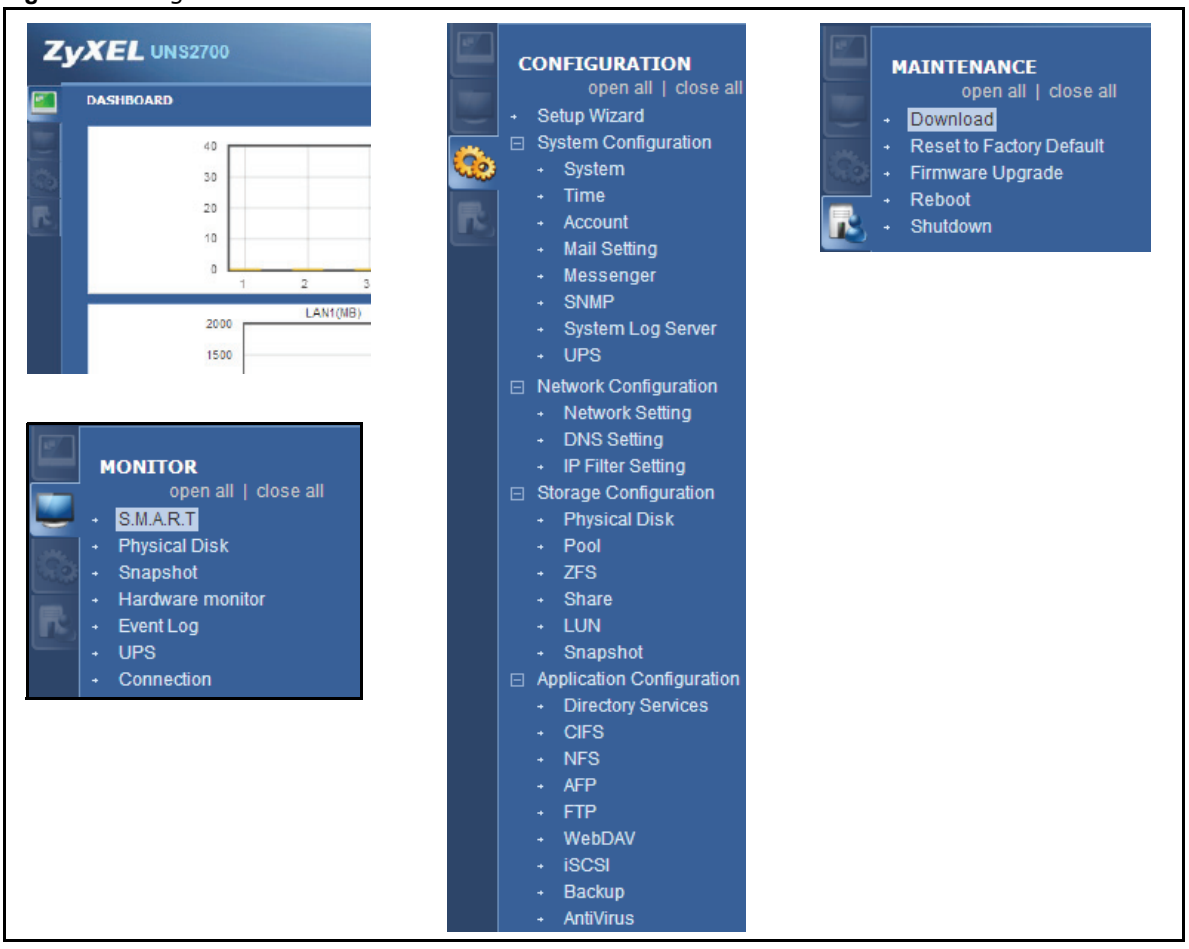
Navigation Panel

3.1 Overview

Use the sub-menus on the navigation panel to configure UNS Series feature.

Choose the functions from the **Menu Bar** on the left side of the window to make any configuration changes.

Figure 2 Navigation Panel



The following table describes the hierarchy of the Web UI.

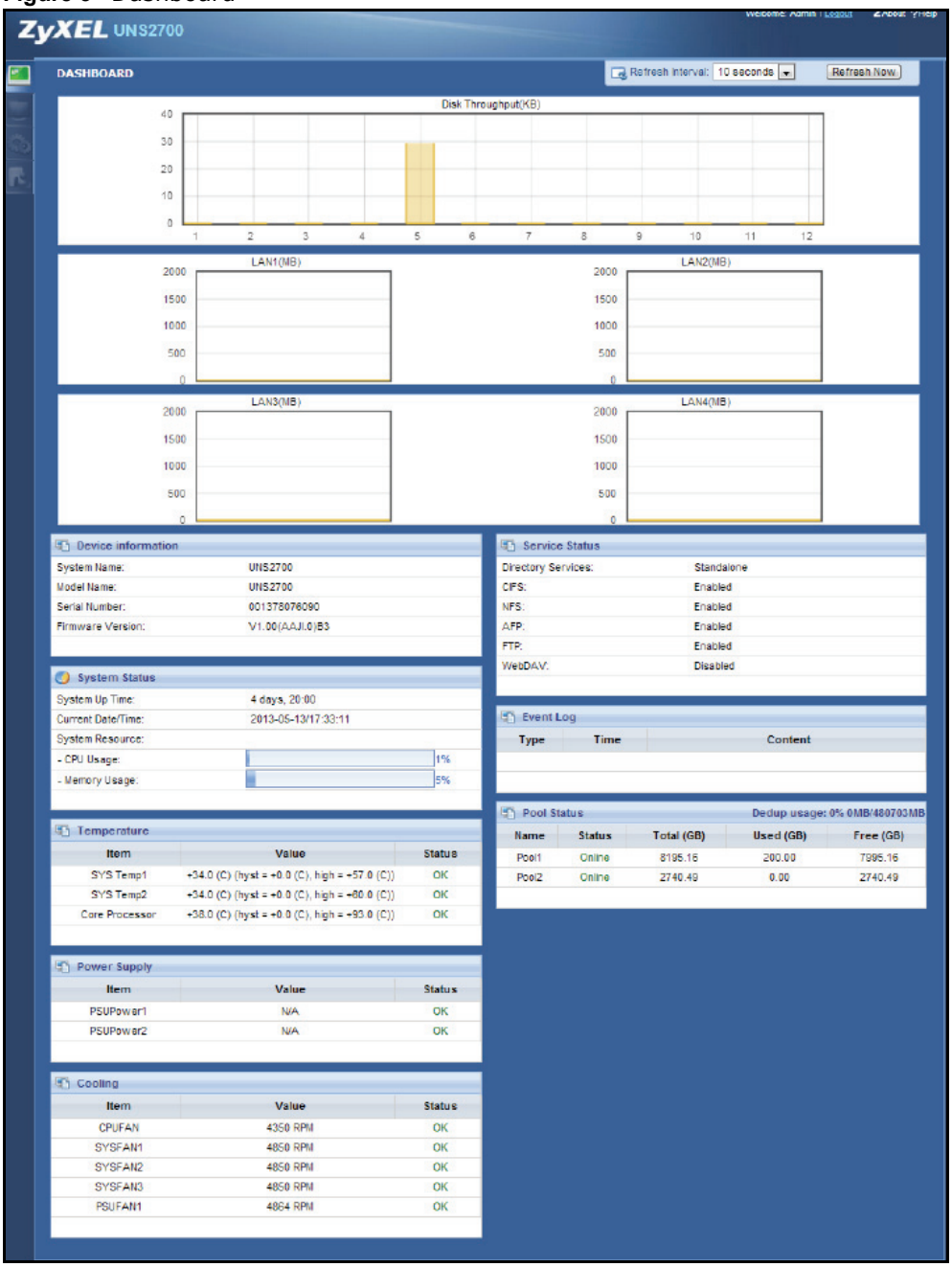
Table 1 Navigation Panel

MENU BAR	LEVEL 1	LEVEL 2
DASHBOARD	Logout	
	About	
	Help	
	Refresh Intervals	
	Refresh Now	
MONITOR	S.M.A.R.T	
	Physical Disk	
	Snapshot	
	Hardware Monitor	
	Event Log	
	UPS	
	Connection	
CONFIGURATION	Setup Wizard	
	System Configuration	System / Time / Account / Mail Setting / Messenger /SNMP / System Log Server / UPS
	Network Configuration	Network Settings / DNS Settings / IP Filter Setting
	Storage Configuration	Physical Disk / Pool / ZFS / Share / Snapshot
	Application Configuration	Directory Services / CIFS / NFS / AFP / FTP / WebDAV / ISCSI / Backup / Antivirus
MAINTENANCE	Download	Download MIB file / Download System Information
	Reset to Factory Default	
	Firmware Upgrade	
	Reboot	
	Shutdown	

3.2 Dashboard

The Dashboard interface provides an overview of the device’s overall status.

Figure 3 Dashboard



The following table describes the items on this screen.

Table 2 Dashboard

ITEM	DESCRIPTION
DASHBOARD	
Disk Throughput (KB)	Displays the current disk throughput.
LAN1 (MB)	Displays the current data throughput for LAN1.
LAN2 (MB)	Displays the current data throughput for LAN2.

Table 2 Dashboard (continued)

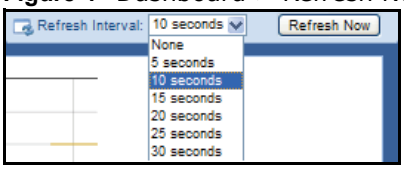
ITEM	DESCRIPTION
LAN3 (MB)	Displays the current data throughput for LAN3.
LAN4 (MB)	Displays the current data throughput for LAN4.
Device Information	
System Name	Displays the name of the device.
Model Name	Displays the model number of the device.
Serial Number	Shows the serial number of the device.
Firmware Version	Displays the current firmware version.
System Status	
System Up Time	Displays how long the system has been up and running.
Current Date/ Time	Shows the current date and time.
System Resource	
-CPU Usage	Displays the current status of CPU usage.
-Memory Usage	Displays the current status of Memory usage.
Temperature	
Item	Shows the name of each storage component.
Value	Displays the current temperature of each component.
Status	Displays the current status.
Power Supply	
Item	Shows the name of each storage component.
Value	Displays the current value.
Status	Displays the current status.
Cooling	
Item	Shows the name of each storage component.
Value	Shows the Fan speeds.
Status	Displays the current status.
Service Status	
Directory Services	Displays the type of directory services that is being configured for the current domain security.
CIFS	Displays the status of the service: Enabled or Disabled.
NFS	Displays the status of the service: Enabled or Disabled.
AFP	Displays the status of the service: Enabled or Disabled.
FTP	Displays the status of the service: Enabled or Disabled.
webDAV	Displays the status of the service: Enabled or Disabled.
Event Log	
Type	Displays the message type.
Time	Displays the time when receiving the message.
Content	A brief explanation of the message.
Pool Status	

Table 2 Dashboard (continued)

ITEM	DESCRIPTION
Dedup usage	Displays the Dedup usage.
Name	Shows the name of a storage pool.
Status	Shows the status of a storage pool.
Total (GB)	Displays the capacity of a storage.
Used (GB)	Displays the amount of used disk space.
Free (GB)	Displays the amount of available disk space.

You can specify **Refresh Interva**l at the top right corner or click **Refresh Now** to manually update the system status.

Figure 4 Dashboard > Refresh Now



The following table describes the items on the screen.

Table 3 Dashboard > Refresh Now

ITEM	DESCRIPTION
Refresh Interval	
Drop-down menu	You can specify how long the system will report the system status.
Refresh Now	Click Refresh Now to manually update the system status.

4

Getting Started

4.1 Overview

This chapter shows you how to use the UNS Series' various features.

4.2 Usage Scenario

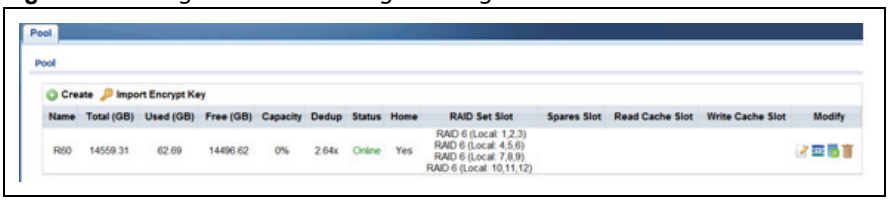
Assume that an IT manager of an SMB company with 200 employees buys a device. How can the IT manager deploy the UNS Series to meet everyone's needs? There may be different departments each with specific needs such as running different operating system platforms (Windows, Mac, Linux), or provisioning storage space for different application servers to make sure business critical applications run without interruption.

4.3 Creating a Storage Pool

Before configuring the UNS system, you must install hard drives and create storage space for the services and system setup process. A storage pool consists of one or more RAID sets. Pool size is expanded by adding extra RAID sets which can be done on demand without stopping data services.

To create storage pools, file systems, or iSCSI volumes on the UNS system, click **Configuration** > **Storage Configuration**.

Figure 5 Configuration > Storage Configuration

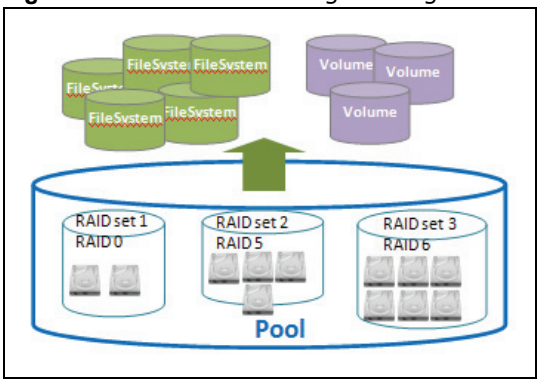


To set up file sharing, create a file system from the storage pool and create folders and shares within the file system.

To set up block-level access, create an iSCSI volume from the storage pool.

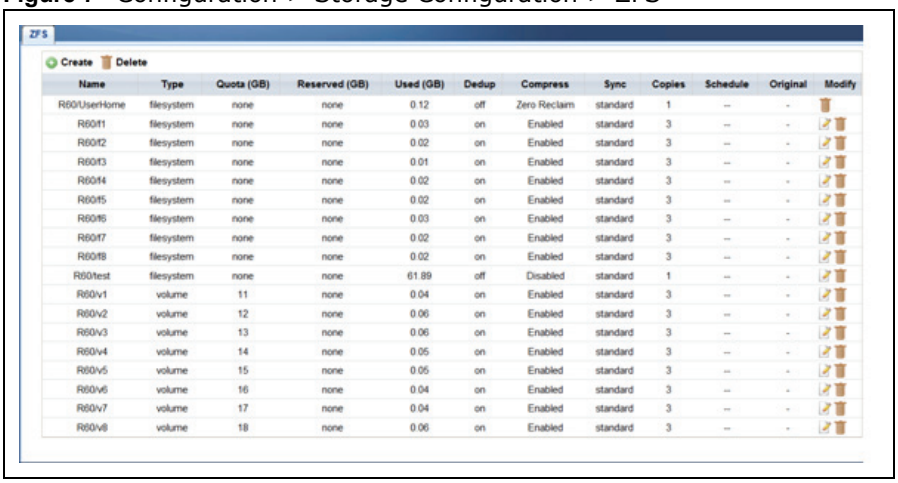
Enterprise level functions such as thin provisioning, deduplication, and compression serve to maximize the storage efficiency of UNS Series system.

Figure 6 UNS Series Storage Configuration



Click **Configuration** > **Storage Configuration** > **ZFS** to create the file systems and iSCSI volumes.

Figure 7 Configuration > Storage Configuration > ZFS


ZFS
Create
Delete
Name
Type
Quota (GB)
Reserved (GB)
Used (GB)
Dedup
Compress
Sync
Copies
Schedule
Original
Modify
R60/UserHome filesystem none none 0.12 off Zero Reclaim standard 1 -- -
R60/f1 filesystem none none 0.03 on Enabled standard 3 -- -
R60/f2 filesystem none none 0.02 on Enabled standard 3 -- -
R60/f3 filesystem none none 0.01 on Enabled standard 3 -- -
R60/f4 filesystem none none 0.02 on Enabled standard 3 -- -
R60/f5 filesystem none none 0.02 on Enabled standard 3 -- -
R60/f6 filesystem none none 0.03 on Enabled standard 3 -- -
R60/f7 filesystem none none 0.02 on Enabled standard 3 -- -
R60/f8 filesystem none none 0.02 on Enabled standard 3 -- -
R60/test filesystem none none 61.89 off Disabled standard 1 -- -
R60/v1 volume 11 none 0.04 on Enabled standard 3 -- -
R60/v2 volume 12 none 0.06 on Enabled standard 3 -- -
R60/v3 volume 13 none 0.06 on Enabled standard 3 -- -
R60/v4 volume 14 none 0.05 on Enabled standard 3 -- -
R60/v5 volume 15 none 0.05 on Enabled standard 3 -- -
R60/v6 volume 16 none 0.04 on Enabled standard 3 -- -
R60/v7 volume 17 none 0.04 on Enabled standard 3 -- -
R60/v8 volume 18 none 0.06 on Enabled standard 3 -- -

4.4 Configuring a User Account

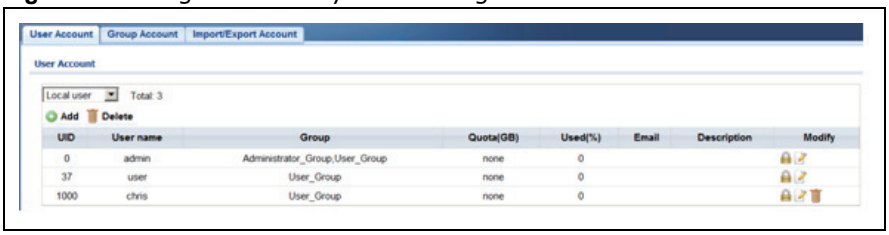
UNS Series supports both local user accounts and domain accounts. All user and group account information is displayed in the User Account and Group Account screens. An import/export function is available for local accounts and is located on the Import/Export Account screen. The import/export function is particularly useful for batch user account jobs.

Click **Configuration** -> **System Configuration** -> **Account** to view the User Account screen.

Click **Configuration** -> **System Configuration** -> **Account** > **Group Account** to view the Group Account screen.

Click **Configuration** -> **System Configuration** -> **Account** > **Import/Export Account** to view the Import/Export Account screen.

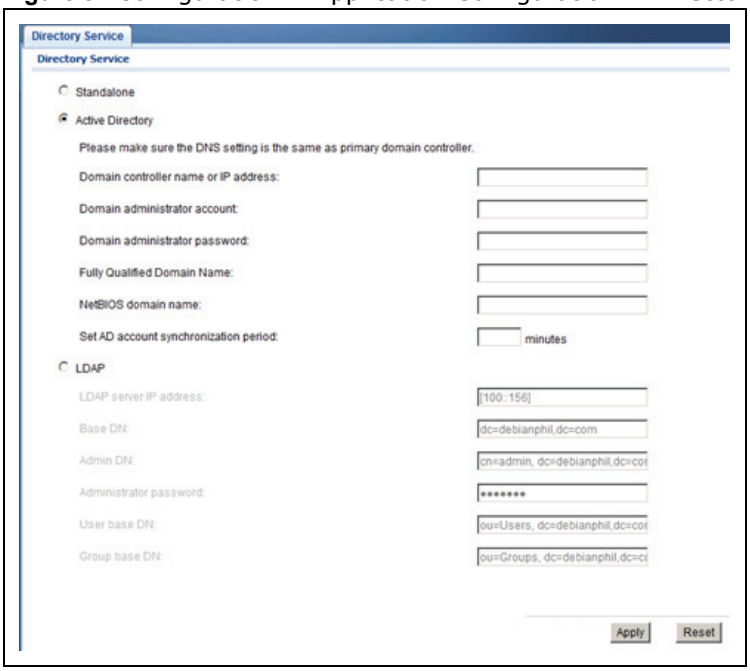
Figure 8 Configuration > System Configuration > Account



An IT manager can choose the type of account management that fits their IT infrastructure. The UNS Series supports stand-alone, Active Directory, and LDAP services. The UNS Series easily integrate with AD/LDAP servers to streamline the account setup process. All the IT manager needs to do is provide the correct login data to join the domain.

To access directory services, click **Configuration** > **Application Configuration** > **Directory Services**.

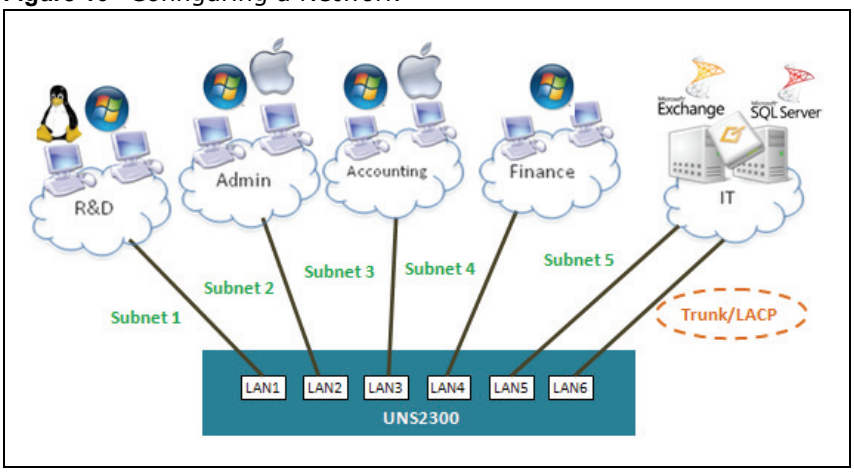
Figure 9 Configuration > Application Configuration > Directory Services



4.5 Configuring Network Settings

The UNS Series supports gigabyte ethernet ports with multi-home setting. All ports can have different subnet settings to accommodate a company's IT infrastructure. If extra bandwidth is needed, link aggregation is supported with three different modes to choose from. All major data services such as CIFS, NFS, AFP, FTP, WebDAV, and iSCSI are supported. Services can be assigned on all network ports or can be dedicated to individual ports for each department for easy management.

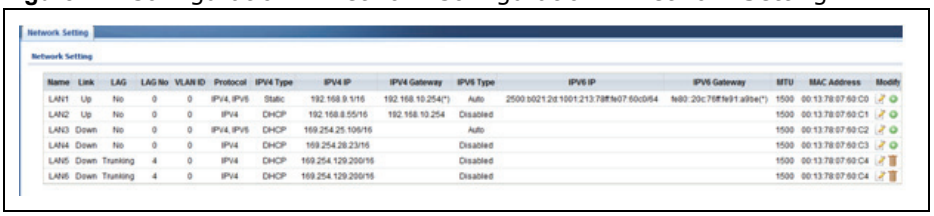
Figure 10 Configuring a Network



There are a variety of options available to an IT manager to configure a network for any scenario.

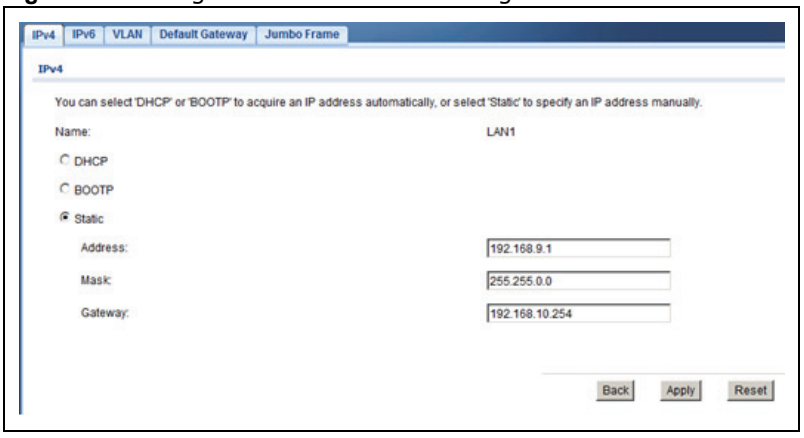
To view network port settings, click **Configuration** > **Network Configuration** > **Network Setting**.

Figure 11 Configuration > Network Configuration > Network Setting


Network Setting
Network Setting
Name Link LAG LAG No VLAN ID Protocol IPV4 Type IPV4 IP IPV4 Gateway IPV6 Type IPV6 IP IPV6 Gateway MTU MAC Address Modify
LAN1 Up No 0 0 IPV4, IPV6 Static 192.168.9.1/16 192.168.10.254(*) Auto 2500:b021:2d:1001:213:78ff:fe07:60c0/64 fe80:20c:78ff:fe91:a9be(*) 1500 00:13:78:07:60:C0
LAN2 Up No 0 0 IPV4 DHCP 192.168.8.55/16 192.168.10.254 Disabled 1500 00:13:78:07:60:C1
LAN3 Down No 0 0 IPV4, IPV6 DHCP 169.254.25.105/16 Auto 1500 00:13:78:07:60:C2
LAN4 Down No 0 0 IPV4 DHCP 169.254.28.23/16 Disabled 1500 00:13:78:07:60:C3
LAN5 Down Trunking 4 0 IPV4 DHCP 169.254.129.200/16 Disabled 1500 00:13:78:07:60:C4
LAN6 Down Trunking 4 0 IPV4 DHCP 169.254.129.200/16 Disabled 1500 00:13:78:07:60:C4

To configure network settings for a port, click **Configuration** > **Network Configuration** > **Network Setting** > **(Modify) Edit**.

Figure 12 Configuration > Network Configuration > Network Setting > (Modify) Edit



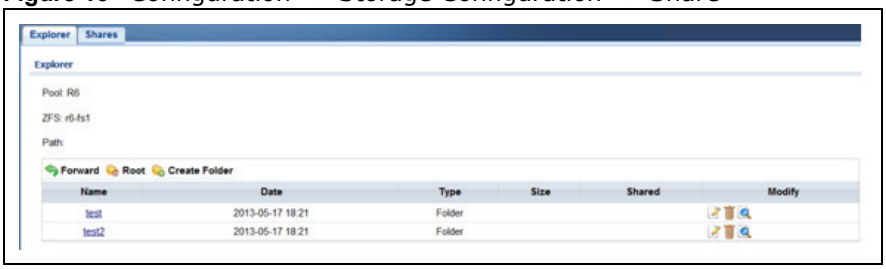
4.6 All About Sharing

After the storage pool is ready and user accounts have been created, you can assign the access control list to the different shares. The UNS Series provides a straight forward Web Configurator to

facilitate the process of setting access control. The Web Configurator gives an IT manager the maximum control over allowing who can access what data. It also makes sure data security and confidentiality are maintained using the highest level of security with minimum management efforts.

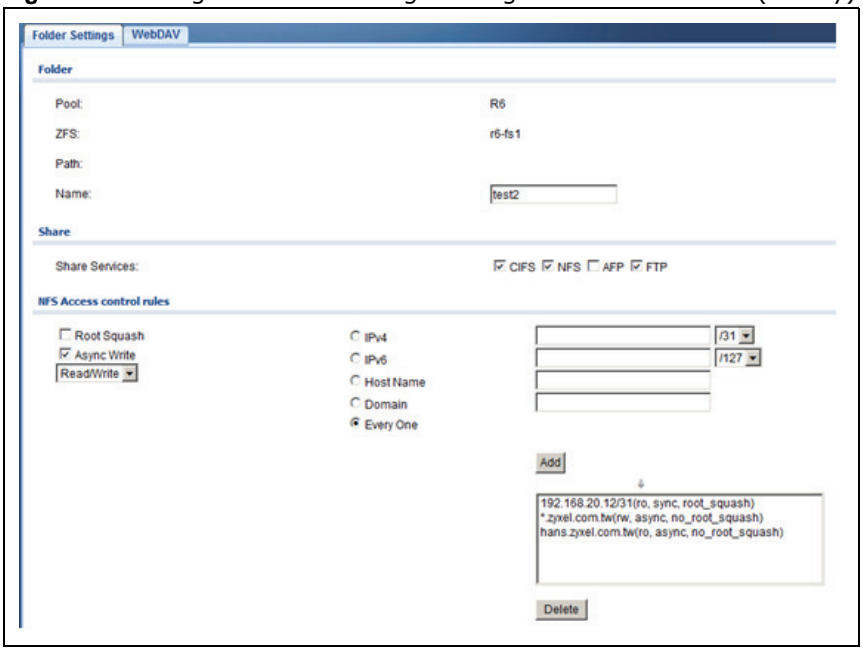
To view folders and shares, click **Configuration** -> **Storage Configuration** -> **Share**.

Figure 13 Configuration -> Storage Configuration -> Share



To adjust access control settings for an entry, click **Configuration** -> **Storage Configuration** -> **Share** > **(Modify) Edit**.

Figure 14 Configuration -> Storage Configuration -> Share > (Modify) Edit



4.7 Conclusion

The UNS Series is the ideal unified storage system for small to medium-sized companies. It provides both file access and block access at the same time to meet all kinds of deployment needs. IT mangers can use thin provisioning to create multiple types of file systems and iSCSI volumes to achieve greater storage efficiency. Data is protected by RAID and the ZFS file system making sure of end-to-end data consistency at all times. Extra data protection can be added using snapshot and remote replication. The UNS Series is the ultimate storage solution for your company.

4

Setup Wizard

4.1 Overview

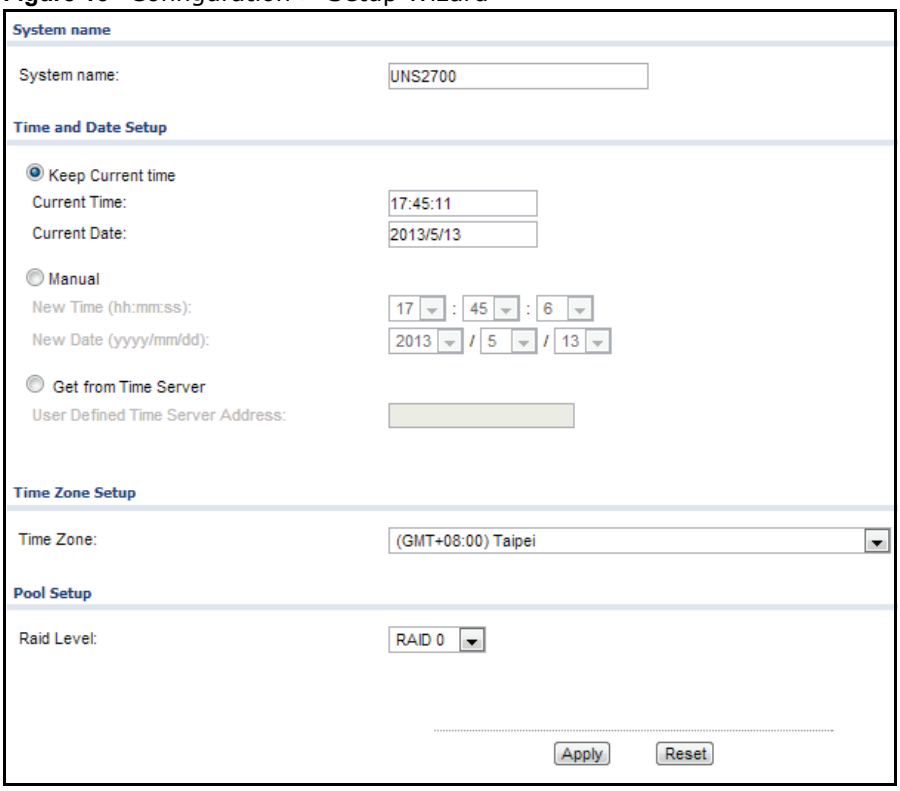
The Setup Wizard section allows you to initially configure the system name, time, time zone and RAID pool levels.

4.2 System Wizard

Click **Configuration** > **Setup Wizard** to display the following screen.

The **Setup Wizard** function is only available when all disks are marked as FreeDisk. In the event that a disk is in use, the **Setup Wizard** function directs you to the Physical Disk screen.

Figure 15 Configuration > Setup Wizard



The following table describes the items on this screen.

Table 4 Configuration > Setup Wizard

ITEM	DESCRIPTION
System name	
System name	Enter the system name for your device.
Time and Date Setup	
Keep Current time	Select **Keep Current time** to set the current time and date based on your computer system's setting.
Current Time	Displays the current time setting based on your computer system.
Current Date	Displays the current date setting based on your computer system.
Manual	Select **Manual** to set the current time and date from the New Time and New Date fields.
Get from Time Server	Select **Get from Timer Server** to synchronize from a defined Time Server Address.
User Defined Time Server Address	Enter a Time Server Address to automatically set the time and date.
Time Zone Setup	
Time Zone	Click the drop-down menu to select a time zone.
Pool Setup	
Raid Level	Click the drop-down menu to select a RAID setting: RAID 0, RAID 1, RAID 5, RAID 6, RAID 10, RAID 50, or RAID 60.
Apply	Click **Apply** to confirm the changes.
Reset	Click **Reset** to discard the changes.

PART II
Technical Reference

6

Monitor

6.1 Overview

The **Monitor** menu consists of the following options: **S.M.A.R.T**, **Physical Disk**, **Snapshot**, **Hardware Monitor**, **Event Log**, **UPS**, and **Connection**.

6.1.1 S.M.A.R.T

S.M.A.R.T. (Self-Monitoring Analysis and Reporting Technology) is a hard drive diagnostic tool which delivers warning messages when drives are approaching failures. The **S.M.A.R.T.** option provides users a chance to take actions before a possible drive failure.

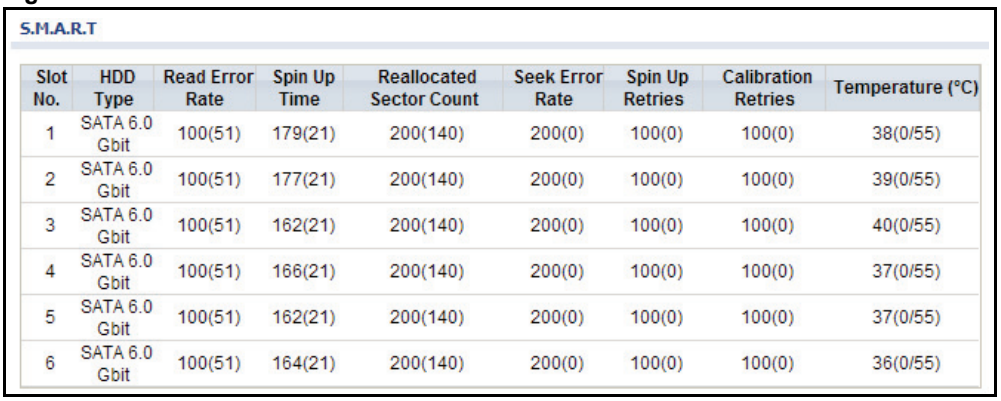
S.M.A.R.T. measures attributes which are specific parameters of various parts of a hard drive and analyzes the health status of hard drives constantly. The notice is given when the possible hard drive failure occurs, which allows you to back up your data or replace your drives in advance.

The numbers displayed are real-time values. The number within parenthesis is the threshold value. The threshold values vary from hard drive vendor to hard drive vendor; please refer to hard drive vendors' specification for details.

S.M.A.R.T. technology only supports SATA drives.

Click **Monitor** > **S.M.A.R.T** to display the following screen.

Figure 16 Monitor > S.M.A.R.T


S.M.A.R.T

Slot No.	HDD Type	Read Error Rate	Spin Up Time	Reallocated Sector Count	Seek Error Rate	Spin Up Retries	Calibration Retries	Temperature (°C)
1	SATA 6.0 Gbit	100(51)	179(21)	200(140)	200(0)	100(0)	100(0)	38(0/55)
2	SATA 6.0 Gbit	100(51)	177(21)	200(140)	200(0)	100(0)	100(0)	39(0/55)
3	SATA 6.0 Gbit	100(51)	162(21)	200(140)	200(0)	100(0)	100(0)	40(0/55)
4	SATA 6.0 Gbit	100(51)	166(21)	200(140)	200(0)	100(0)	100(0)	37(0/55)
5	SATA 6.0 Gbit	100(51)	162(21)	200(140)	200(0)	100(0)	100(0)	37(0/55)
6	SATA 6.0 Gbit	100(51)	164(21)	200(140)	200(0)	100(0)	100(0)	36(0/55)

The following table describes the items on this screen.

Table 5 Monitor > S.M.A.R.T

ITEM	DESCRIPTION
S.M.A.R.T	
Slot No.	Indicates slot location.

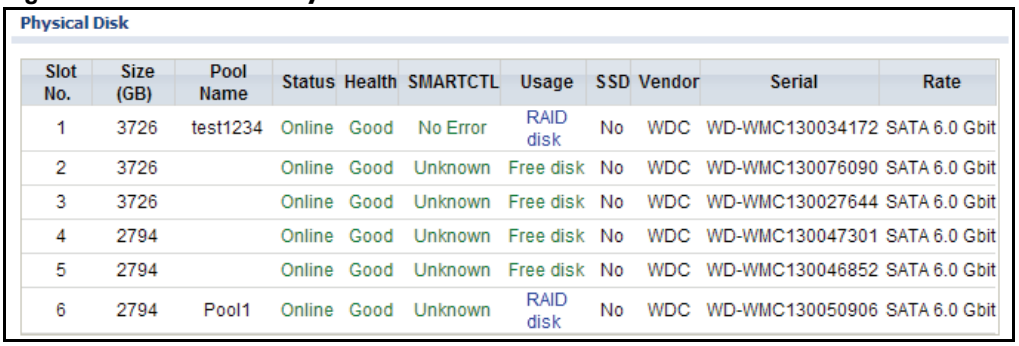
Table 5 Monitor > S.M.A.R.T (continued)

ITEM	DESCRIPTION
HDD Type	Indicates the hard disk type.
Read Error Rate	Displays the error rate when reading the disk.
Spin Up Time	The amount of time required for the drive platters to get up to full operational speed.
Reallocated Sector Count	Indicated the reallocated sectors count. Read/write/verification errors on a hard drive are marked as reallocated, the data is transferred to a special reserved area (spare area).
Seek Error Rate	Indicates the rate of errors on the magnetic head.
Spin Up Retries	Indicates the number of spindle spin ups.
Calibration Retries	Indicates the recalibration count requested due to due to an unsuccessful previous attempt.
Temperature (°C)	Shows the temperature of the hard disk in degrees Celsius.

6.1.2 Physical Disk

The **Physical disk** option gives you the hard drive status. Click **Monitor** > **Physical Disk** to display the following screen.

Figure 17 Monitor > Physical Disk


Physical Disk
Slot No.
Size (GB)
Pool Name
Status
Health
SMARTCTL
Usage
SSD
Vendor
Serial
Rate
1 3726 test1234 Online Good No Error RAID disk No WDC WD-WMC130034172 SATA 6.0 Gbit
2 3726 Online Good Unknown Free disk No WDC WD-WMC130076090 SATA 6.0 Gbit
3 3726 Online Good Unknown Free disk No WDC WD-WMC130027644 SATA 6.0 Gbit
4 2794 Online Good Unknown Free disk No WDC WD-WMC130047301 SATA 6.0 Gbit
5 2794 Online Good Unknown Free disk No WDC WD-WMC130046852 SATA 6.0 Gbit
6 2794 Pool1 Online Good Unknown RAID disk No WDC WD-WMC130050906 SATA 6.0 Gbit

The following table describes the items on this screen.

Table 6 Monitor > Physical Disk

ITEM	DESCRIPTION
Slot	The position of a hard drive. The button next to the number of slot shows the functions which can be executed.
Size (GB)	Hard drive capacity. The unit can be displayed in GB or MB.
Pool Name	Pool name.
Status	The status of the hard drive: • Online: the hard drive is online. • Rebuilding: the hard drive is being rebuilt. • Degraded: one of the RAID set is in degraded mode. • Failed: one of the RAID set is in failed mode. • Importing: the system is loading data from the disks, which means the pool is not ready for use yet.

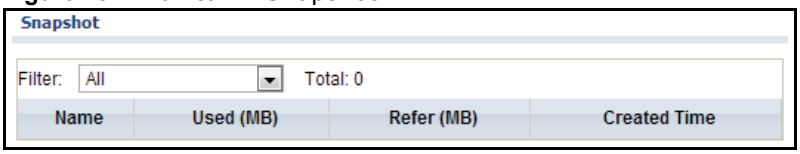
Table 6 Monitor > Physical Disk (continued)

ITEM	DESCRIPTION
Health	The health of the hard drive: • Good: indicates that the hard drive is healthy. • Failed: indicates that the hard drive has failed. • Error alert: S.M.A.R.T. error alert. • Read errors: indicates that the hard drive has unrecoverable read errors. • Reserved: One of the RAID member disks contains RAID group and pool information. If the original RAID group and pool information can't be found, either you have put this disk into its original slot or have set this disk as a free disk.
SMARTCTL	The SMART of the hard drive: • Unknown: the SMART of the hard drive is unknown. • NoError: the SMART of the hard drive has no error. • HasError: the SMART of the hard drive has errors.
Usage	The usage of the hard drive: • RAID disk: The hard drive is set to a RAID group. • Free disk: The hard drive contains free hard disk space. • Dedicated spare: The hard drive is set as a dedicated spare of a pool.
SSD	Solid-state drive (SSD).
Vendor	Displays hard drive vendor.
Serial	Displays hard drive serial number.
Rate	Hard drive rate: • SATA 6Gb/s • SATA 3Gb/s • SATA 1.5Gb/s

6.1.3 Snapshot

All point-in-time snapshots at which you have created are displayed here. Click **Monitor** > **Snapshot** to display the following screen.

Figure 18 Monitor > Snapshot



The following table describes the items on this screen.

Table 7 Monitor > Snapshot

ITEM	DESCRIPTION
Snapshot	
Filter	Select All or specific snapshots created for individual shares from the drop-down menu.
Name	The name of a snapshot.
Used (MB)	Indicates the amount of used snapshot space.

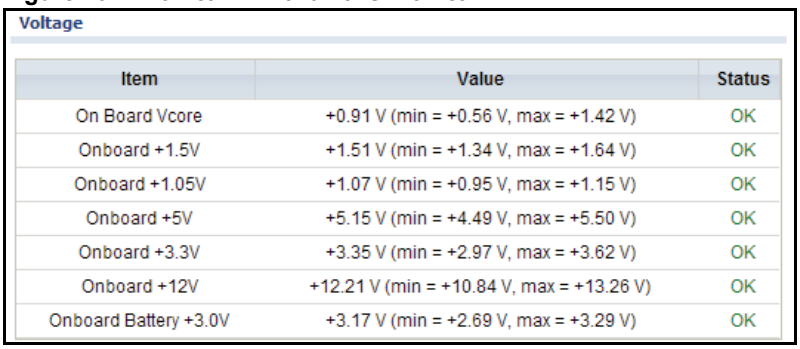
Table 7 Monitor > Snapshot

ITEM	DESCRIPTION
Refer (GB)	Indicates the referred capacity of the file system or the volume.
Created time	Indicates the time in which the snapshot was created.

6.1.4 Hardware Monitor

The **Hardware Monitor** option displays the information of current voltages and temperatures. Click **Monitor** > **Hardware Monitor** to display the following screen.

Figure 19 Monitor > Hardware Monitor



The following table describes the items on this screen.

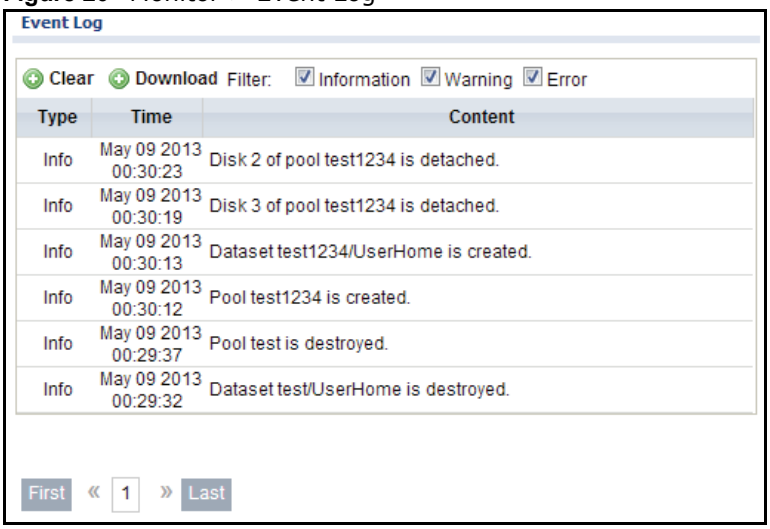
Table 8 Monitor > Hardware Monitor

ITEM	DESCRIPTION
Voltage	
Item	Indicates the specific voltage meter on the device.
Value	Indicates the current voltage including the minimum and maximum values.
Status	Indicates the current health status of the voltage item.

6.1.5 Event Log

The **Event Log** option provides a log or event messages. By default, the log event types such as INFO, WARNING, and ERROR are all selected. Click **Monitor** > **Event Log** to display the following screen.

Figure 20 Monitor > Event Log



The following table describes the labels on this screen.

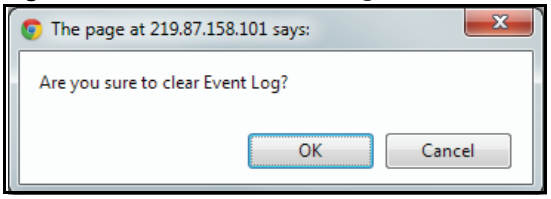
Table 9 Monitor > Event Log

LABEL	DESCRIPTION
Event Log	
Clear	Click the **Clear** button to clear all event logs.
Download	Click the **Download** button to download the log file.
Filter	
Information	Select to list **Information** events (default: selected).
Warning	Select to list **Warning** events (default: selected).
Error	Select to list **Error** events (default: selected).
Type	Displays the log event type.
Time	Displays the time the event occurred.
Content	Provides a brief explanation of the event.
First	Click **First** to navigate to the first page.
Last	Click **Last** to navigate to the last page.

The event log is displayed in reverse order which means the latest event log is on the first / top of the page.

To clear the event log, click **Clear** and confirm at the prompt.

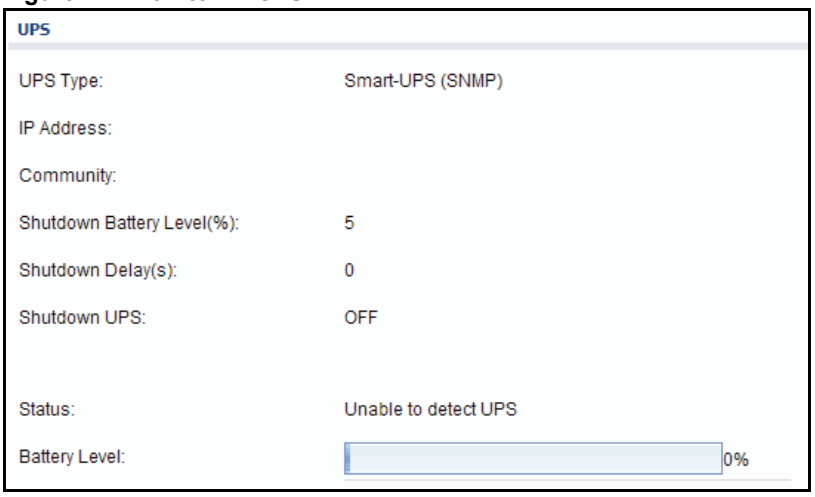
Figure 21 Monitor > Event Log > Clear



6.1.6 UPS

Click **Monitor** > **UPS** to display the following screen.

Figure 22 Monitor > UPS



The following table describes the labels on this screen.

Table 10 Monitor > UPS

LABEL	DESCRIPTION
UPS	
UPS type	Indicates the UPS type.
Shutdown Battery Level	Indicates the battery level percentage before the device initiates a graceful shutdown.
Shutdown Delay	Indicates the delay time before a graceful shutdown occurs.
Shutdown UPS	Indicates if the shutdown function is disabled or enabled.
Status	Indicates the current status of the UPS.
Battery Level	Displays the battery level charge (percentage).

6.1.7 Connection

Click **Monitor** > **Connection** to display the following screen.

Figure 23 Monitor > Connection

The following table describes the labels on this screen.

Table 11 Monitor > Connection

LABEL	DESCRIPTION
Connection	
Protocol	Displays the type of protocol assigned to this connection.
User	Displays the user profile currently associated with this connection.
Client	Displays the type of client.
Server	Indicates the name of the server associated with this connection.

7 System

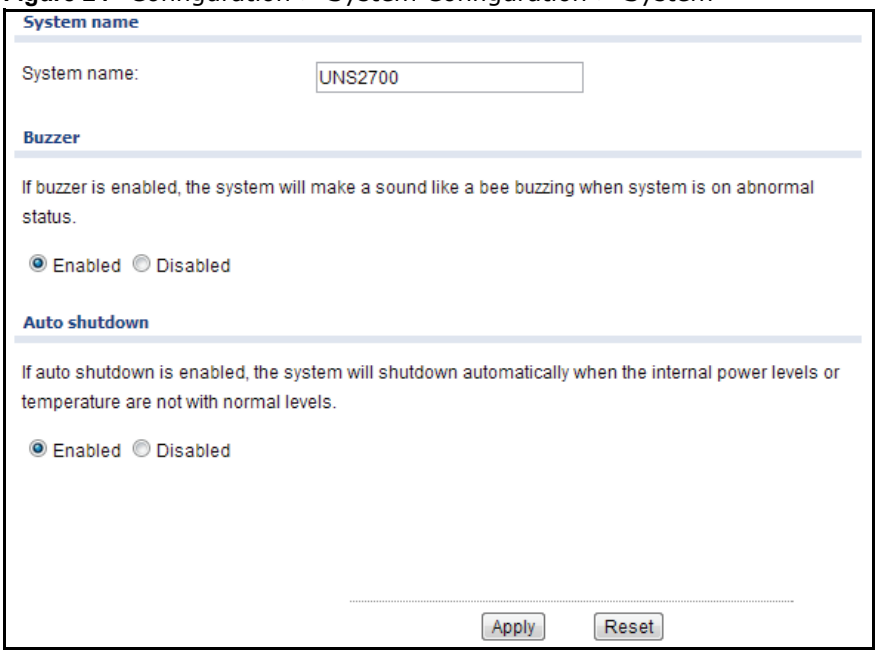
7.1 Overview

This section provides information for **System** in **System Configuration**.

7.2 System

The **System** option is used to setup the system name, system indication, buzzer and auto shutdown. The default system name is composed of the model name and its serial number. Click **Configuration** > **System Configuration** > **System** to display the following screen.

Figure 24 Configuration > System Configuration > System


System name
System name:
UNS2700
Buzzer
If buzzer is enabled, the system will make a sound like a bee buzzing when system is on abnormal status.
Enabled
Disabled
Auto shutdown
If auto shutdown is enabled, the system will shutdown automatically when the internal power levels or temperature are not with normal levels.
Enabled
Disabled
Apply
Reset

The following table describes the items on this screen.

Table 12 Configuration > System Configuration > System

ITEM	DESCRIPTION
System name	
System name	To change the **System name,** place the mouse pointer inside the name box, highlight the old name and type in a new one.
Buzzer	

Table 12 Configuration > System Configuration > System

ITEM	DESCRIPTION
Buzzer	Select **Enable** or **Disable** to configure the Buzzer function. When enabled, the Buzzer function provides and audible alert when the device detects a system fault.
Auto shutdown	Select **Enable** or **Disable** to configure **Auto Shutdown**. An automatic shut down occurs when the system internal power or temperature readings exceed normal levels.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

8 Time

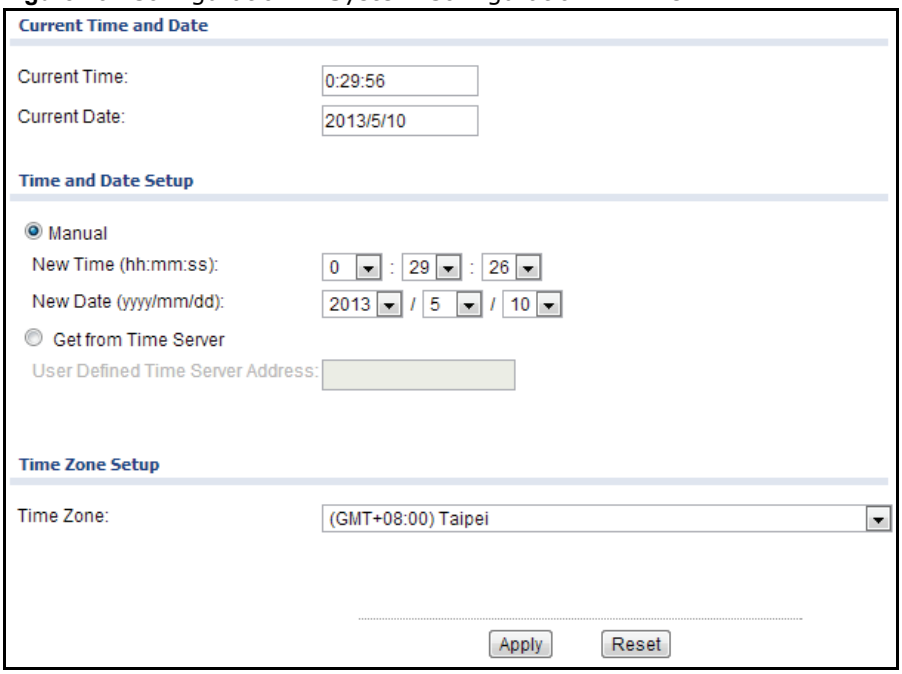
8.1 Overview

This chapter provides information for **Time** in **System Configuration**.

8.2 Time Setting

The **Time** option is used to setup the system time and NTP (Network Time Protocol) server setting. Click **Configuration** > **System Configuration** > **Time** to display the following screen.

Figure 25 Configuration > System Configuration > Time



The following table describes the items on this screen.

Table 13 Configuration > System Configuration > Time

LABEL	DESCRIPTION
Current Time and Date	
Current Time:	Display current time.
Current Date:	Display current date.
Time and Date Setup	
Manual	Select the **Manual** radio button to change the date and time manually.

Table 13 Configuration > System Configuration > Time (continued)

LABEL	DESCRIPTION
New Time (hh:mm:ss)	Select hours, minutes, and seconds from the drop-down menu.
New Date (yyyy/mm/dd)	Select year, month, and date from the drop-down menu.
Get from Time Server	Select the **Get from Time Server** radio button if you want to synchronize the time with a NTP server.
User Defined Time Server Address	Enter the IP address of the NTP server.
Time Zone Setup	
Time Zone:	Select your time zone from the drop-down menu.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

9

Account

9.1 Overview

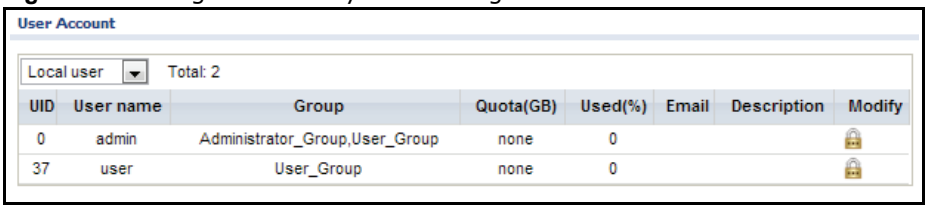
The chapter covers network and system storage management. It also discusses various web applications and services.

9.2 User Account

The **Account** option offers functions to manage local user accounts such as add, delete, edit, change password or view the status of the users. Local user accounts and domain user accounts are displayed separately by selecting the drop down list.

Domain user accounts are only for display purpose. You cannot edit domain account or change the password of domain accounts. Click **Configuration** > **System Configuration** > **Account** to display the following screen.

Figure 26 Configuration > System Configuration > Account



The following table describes the labels on this screen.

Table 14 Configuration > System Configuration > Account

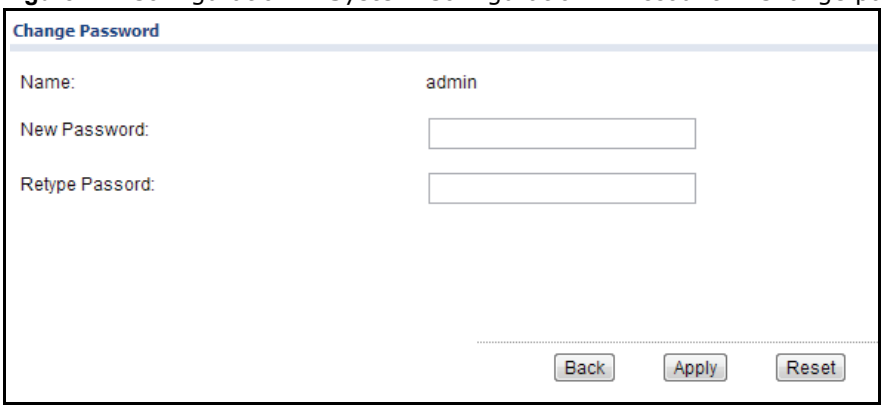
ITEM	DESCRIPTION
Local user	Click to select Local or Domain users.
UID	Displays the user ID.
User name	Displays the account profile name.
Group	Displays the group associated with the account profile.
Quota (GB)	Displays the allocated space for the user.
Used (%)	Displays the amount of used (percentage) space from the allocated quota.
Email	Displays the user's designated email.
Description	Displays the description given to this user account.
Modify	
Change Password	Click to change the name of the selected user’s account password.

Note: When connecting a user's home directory (Windows) share, the network drive capacity displays the free space of the storage pool and not the user quota size. The home directory is created using the thin provisioning function resulting in the larger free space capacity. However, the user's share is still limited to the defined user quota and not the capacity designated by thin provisioning.

9.2.1 The Change Password Screen

Click **Configuration** > **System Configuration** > **Account** > **Change password** to display the following screen.

Figure 27 Configuration > System Configuration > Account > Change password



The following table describes the labels on this screen.

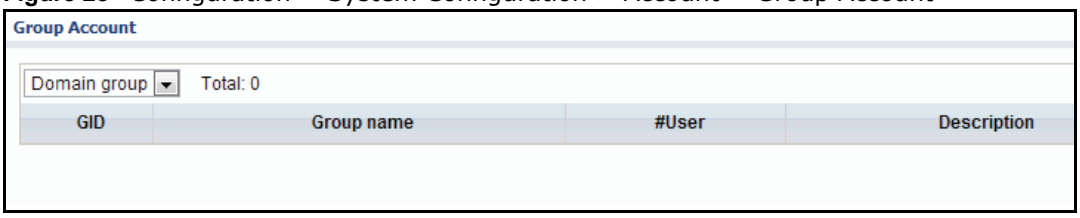
Table 15 Configuration > System Configuration > Account > Change password

ITEM	DESCRIPTION
Change Password	
Name	Displays the account profile name.
New Password	Enter the new password for this account.
Retype Password	Enter the new password again for verification.
Back	Click **Back** to go to the previous screen.
Apply	Click **Apply** to confirm the changes.
Reset	Click **Reset** to discard the changes.

9.3 Group Account

The **Group Account** option offers functions to manage local groups such as add, delete, edit, or view the status of the groups. Local groups and domain groups are displayed separately by selecting the drop down list. Click **Configuration** > **System Configuration** > **Account** > **Group Account** to display the following screen.

Figure 28 Configuration > System Configuration > Account > Group Account



The following table describes the labels on this screen.

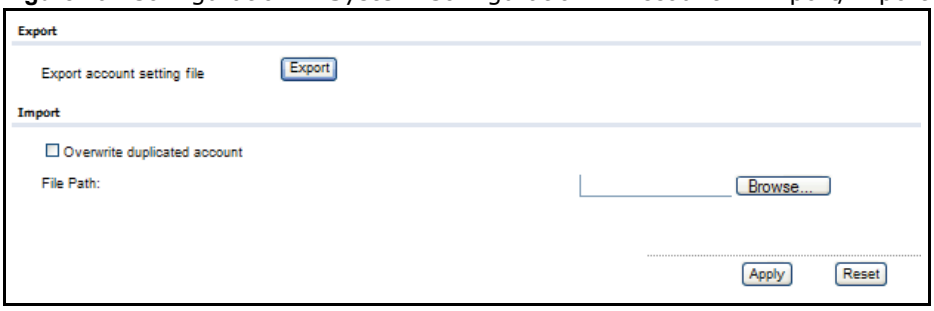
Table 16 Configuration > System Configuration > Account > Group Account

LABELS	DESCRIPTION
GID	Displays the group ID (user assigned range 1000 ~ 60000).
Group name	Displays the group name for the GID.
#User	Displays the number of users belonging to this group.
Description	Displays a description for this group.

9.4 Import/Export Account

The Import/Export function allows you to import or export user account settings to or from an external file. Click **Configuration** > **System Configuration** > **Account** > **Import/Export Account** to display the following screen.

Figure 29 Configuration > System Configuration > Account > Import/Export Account



The following table describes the labels on this screen.

Table 17 Configuration > System Configuration > Account > Import/Export Account

ITEM	DESCRIPTION
Export	
Export account setting file	Click **Export** to export the user account settings to a text file.
Import	
Overwrite duplicated account	Select this to overwrite a pre-existing account.
File Path	Displays the file path of the selected document.
Browse	Click **Browse** to browse for an account file to import.

ITEM	DESCRIPTION
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

10

Mail Setting

10.1 Overview

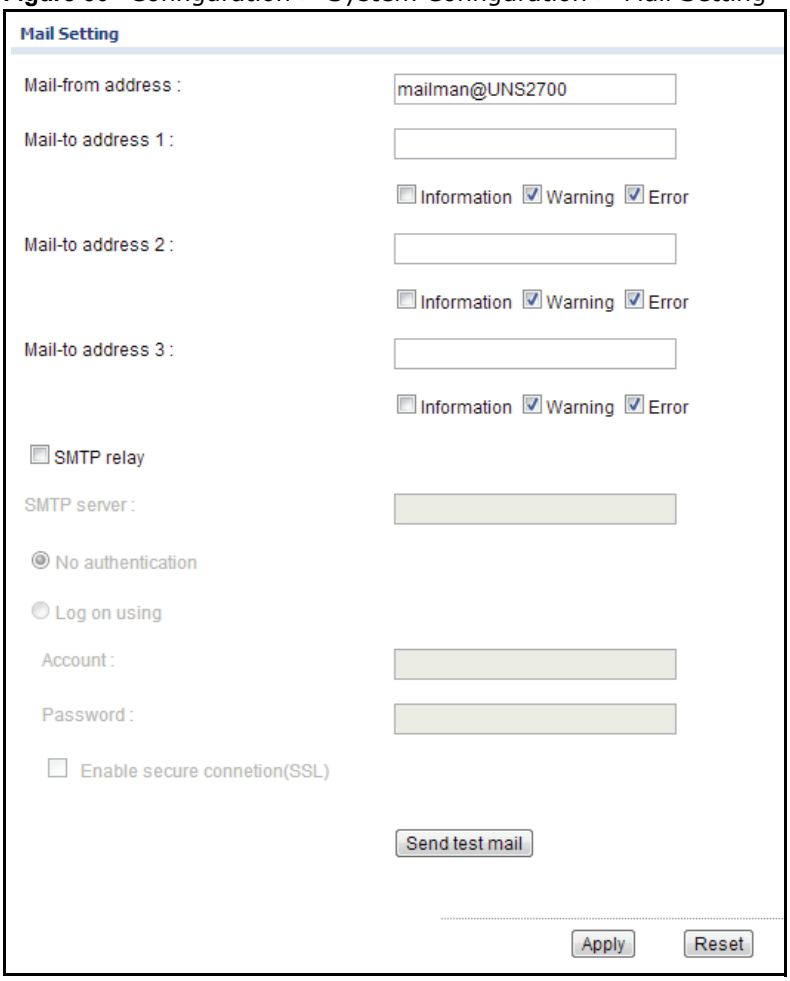
This chapter provides information on the Mail Setting screens in Configuration. The Mail Setting helps you to configure mail server settings and mail event logs.

10.2 Mail Setting

The **Mail setting** option is used to enter up to three mail addresses to receive event notifications. Fill in the necessary fields and click **Send test mail** to test the configuration. Some mail servers check the **Mail-from address** and need the SMTP relay setting for authentication.

You can set the event login levels to receive (default: Warning and Error). Please make sure that the DNS server IP has been setup correctly (**Configuration** > **Network Configuration** > **DNS Setting**), so the event notification mail can be sent successfully. Click **Configuration** > **System Configuration** > **Mail Setting** to display the following screen.

Figure 30 Configuration > System Configuration > Mail Setting



The following table describes the items on this screen.

Table 18 Configuration > System Configuration > Mail Setting

ITEM	DESCRIPTION
Mail Setting	
Mail-from address	To change the **Mail-from address,** place the mouse pointer inside the name box, highlight the old name and type in a new one.
Mail-to address 1	Enter your first mail address.
Information, Warning, Error	Select event Login levels.
Mail-to address 2	Enter your second mail address.
Information, Warning, Error	Select event Login levels.
Mail-to address 3	Enter your third mail address.
Information, Warning, Error	Select event Login levels.
SMTP relay	Select SMTP relay if you want to send, receive, or route e-mail across a network.

Table 18 Configuration > System Configuration > Mail Setting

ITEM	DESCRIPTION
SMTP server	Enter the IP address or DNS name of the SMTP server.
No authentication	Select No authentication radio button if the SMTP server does not require authentication.
Log on using	Select Log on using radio button if the SMTP server requires authentication.
Account	Enter your account name.
Password	Enter your password
Enable secure connection (SSL)	Enable this check box for secure message transmission.
Send test mail	Click **Send test mail** to send test email.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

11

Messenger

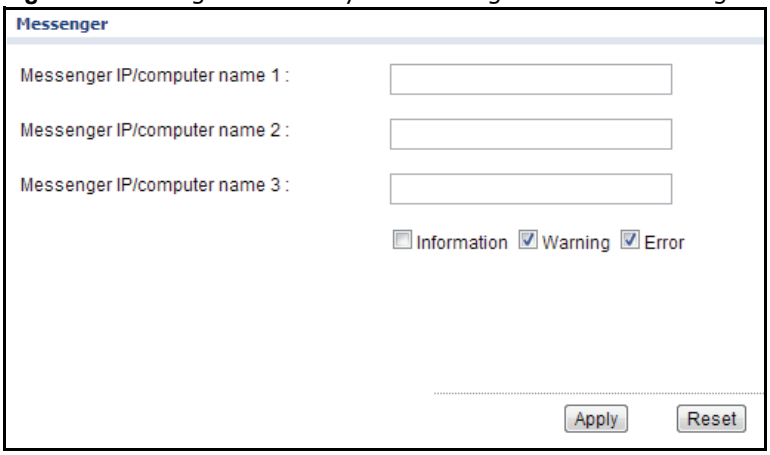
11.1 Overview

This chapter provides information on the Messenger setup screens in Configuration. The Messenger screen helps you to setup messenger services for designated accounts and event log reporting.

11.2 Messenger

The **Messenger** option is used to net send and transmit user messages between computers, up to three accounts. The Messenger service must first be enabled on your server side. Setting configuration also includes even log notification. Click **Configuration** > **System Configuration** > **Messenger** to display the following screen.

Figure 31 Configuration > System Configuration > Messenger



The following table describes the items on this screen.

Table 19 Configuration > System Configuration > Messenger

ITEM	DESCRIPTION
Messenger	
Messenger IP/ computer name 1	Enter the first Messenger IP / computer name.
Messenger IP/ computer name 2	Enter the second Messenger IP / computer name.
Messenger IP/ computer name 3	Enter the third Messenger IP / computer name.

Table 19 Configuration > System Configuration > Messenger (continued)

ITEM	DESCRIPTION
Information, Warning, Error	Click to select the event login levels.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

12 SNMP

12.1 Overview

This section provides information for Simple Network Management Protocol (SNMP) to manage network devices.

12.2 SNMP

The **SNMP** option is used to setup SNMP traps (for SNMP alerts). This feature allows up to three SNMP trap addresses. By default, the community setting is public. You can select alert levels which you want to receive. The default setting only includes WARNING and ERROR event logs. There are many SNMP tools available on the internet.

- SNMPc: http://www.snmpc.com/
- Net-SNMP: http://net-snmp.sourceforge.net/

Click **Configuration** > **System Configuration** > **SNMP** to display the following screen.

Figure 32 Configuration > System Configuration > SNMP

The following table describes the labels on this screen.

Table 20 Configuration > System Configuration > SNMP

LABELS	DESCRIPTIONS
SNMP	
SNMP trap address 1	Enter the first SNMP trap address.

Table 20 Configuration > System Configuration > SNMP (continued)

LABELS	DESCRIPTIONS
SNMP trap address 2	Enter the second SNMP trap address.
SNMP trap address 3	Enter the third SNMP trap address.
Community	Enter the community string (password) used to authenticate messages between communities.
Information, Warning, Error	Click to select the event login levels.
Apply	Click **Apply** button to save the changes.
Reset	Click **Reset** button to discard the changes.

13

System Log Server

13.1 Overview

This section introduces the System Log Server (Syslog), a standard for computer data logging. Syslog services allows you to designate which system messages to manage your system and security auditing. General informational, analysis, and debugging messages can also be included.

13.2 System Log Server

The System Log Server option is used to setup alerts via the Syslog protocol. Fill in the necessary fields for Syslog service. The default port is 514. Set an alert level to You can choose an alert level which you want to receive. The default setting only includes WARNING and ERROR event logs.

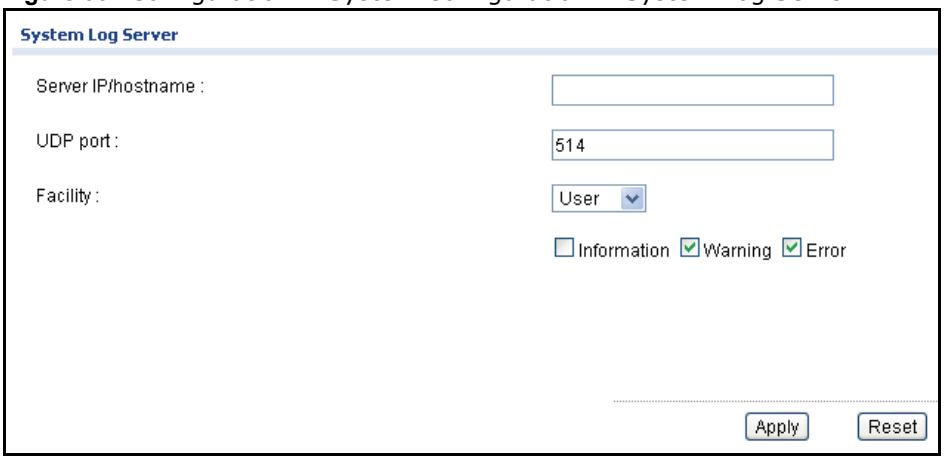
The following are available Syslog server tools. The list is provided as a reference only.

There are some Syslog server tools available on the internet for Windows. Most UNIX systems have a built-in Syslog daemon.

- WinSyslog: http://www.winsyslog.com/
- Kiwi Syslog Daemon: http://www.kiwisyslog.com/

Click **Configuration** > **System Configuration** > **System Log Server** to display the following screen.

Figure 33 Configuration > System Configuration > System Log Server



The following table describes the items on this screen.

Table 21 Configuration > System Configuration > System Log Server

ITEM	DESCRIPTION
System Log Server	
Server IP/ hostname	Enter the IP address / hostname of the System Log Server.
UDP port	By default, the UDP port is **514**
Facility	Select an account from the drop-down menu.
Information, Warning, Error	Click to select the type of event login information to report.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

14 UPS

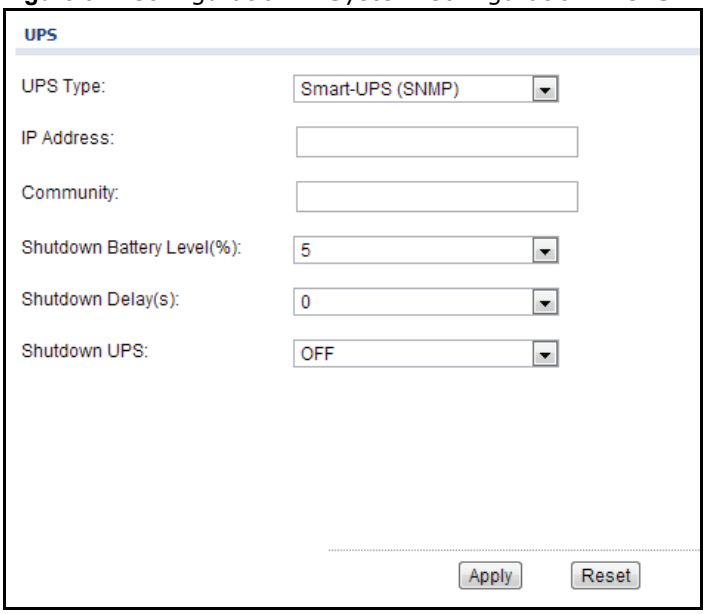
14.1 Overview

This chapter provides information for the Uninterruptible Power Supply (**UPS**) service in **System Configuration**.

14.2 UPS

Click **Configuration** > **System Configuration** > **UPS** to display the following screen.

Figure 34 Configuration > System Configuration > UPS



The following table describes the items on this screen.

Table 22 Table Configuration > System Configuration > UPS

ITEM	DESCRIPTION
UPS	
UPS type	Use this to select the UPS type: None, Smart-UPS, or Megatec. None: no UPS available Megatec-UPS: a Megatec supported device
IP Address	Enter the IP Address of the UPS type.
Community	Enter the SNMP community string.

Table 22 Table Configuration > System Configuration > UPS (continued)

ITEM	DESCRIPTION
Shutdown Battery Level (%)	Displays the current battery level. A setting level of zero initiates function shutdown.
Shutdown Delay (s)	Displays the delay timer before shutdown. In the event of power failure, the system will attempt a recovery within the allocated delay period, otherwise it initiates a shutdown procedure. Setting of zero disables the function.
Shutdown UPS	Use this to enable an automatic UPS shutdown after a successful system shutdown during a power failure. Once power is restored, the UPS function triggers a system power up function.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

15

Network Setting

15.1 Overview

This chapter provides information for the network settings in Configuration.

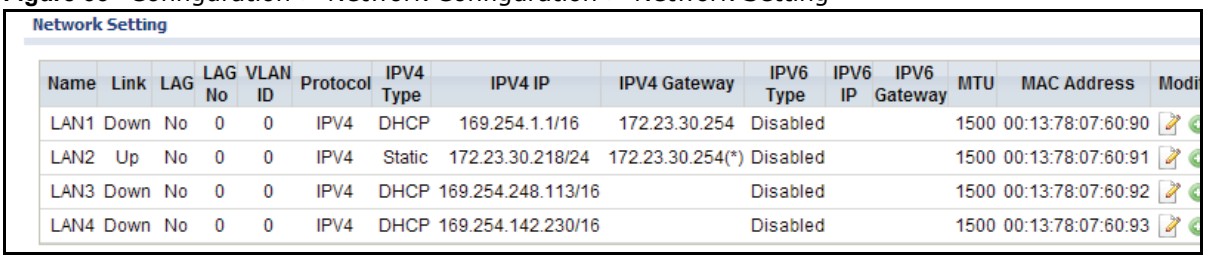
15.2 Network Setting Screen

The **Network Setting** option is mainly used for accessing the LAN1 port and **LAN** ports. You can use this option to configure IP addresses for these network ports. The UNS Series includes the following network port configuration:

- **UNS Series:** 1 x GbE LAN1 port + 2 x 10GbE port + 1 x GbE port per controller.

Each port must be assigned its own IP address--multi-homed mode, or in present link aggregation / trunking mode configurations. Multiple LAN ports are set up in link aggregation mode or trunk mode allowing all ports to share the same IP address. Click **Configuration** > **Network Configuration** > **Network Setting** to display the following screen.

Figure 35 Configuration > Network Configuration > Network Setting


Network Setting
Name Link LAG LAG No VLAN ID Protocol IPV4 Type IPV4 IP IPV4 Gateway IPV6 Type IPV6 IP IPV6 Gateway MTU MAC Address Modi
LAN1 Down No 0 0 IPV4 DHCP 169.254.1.1/16 172.23.30.254 Disabled 1500 00:13:78:07:60:90
LAN2 Up No 0 0 IPV4 Static 172.23.30.218/24 172.23.30.254(*) Disabled 1500 00:13:78:07:60:91
LAN3 Down No 0 0 IPV4 DHCP 169.254.248.113/16 Disabled 1500 00:13:78:07:60:92
LAN4 Down No 0 0 IPV4 DHCP 169.254.142.230/16 Disabled 1500 00:13:78:07:60:93

The following table describes the labels on this screen.

Table 23 Configuration > Network Configuration > Network Setting

LABELS	DESCRIPTIONS
Name	Display the LAN1 port or LAN ports.
Link	Display the network link status: • Green Light: the link is up and running. • Red Light: the link is down.
LAG	Display the link aggregation status.
LAG No	Display the link aggregation number.
VLAN ID	Display the VLAN number.
Protocol	Display IPv4 or IPv6.

Table 23 Configuration > Network Configuration > Network Setting (continued)

LABELS	DESCRIPTIONS
IPV4 Type	IPv4 address mode: • Static: means static IP addresses. • DHCP: means dynamic assigned IP addresses.
IPV4 IP	IPv4 addresses.
IPV4 Gateway	Gateway that uses IPv4 address.
IPV6 Type	IPv6 address mode: • Static: static address. • Auto: RA (router advertisement calculated address.) • DHCP: DHCPv6 assigned address.
IPV6 IP	IPv6 addresses.
IPV6 Gateway	Gateway that uses IPv6 address.
MTU	Maximum Transmission Unit. By default, MTU is 1500
MAC Address	Display MAC addresses.
Modify	
Edit	Click **Edit** to configure the following settings: IPv4, IPv6, VLAN, Default Gateway and Jumbo Frame.
Create Link Aggregation	Click **Create Link Aggregation** to combine multiple connections to create a parallel bond.

The LAN1 port is the network port for downloading QCentral software via HTTP. The port does not support the WebDAV service or link aggregation to other LAN ports--GbE and 10GbE LAN ports cannot be aggregated.

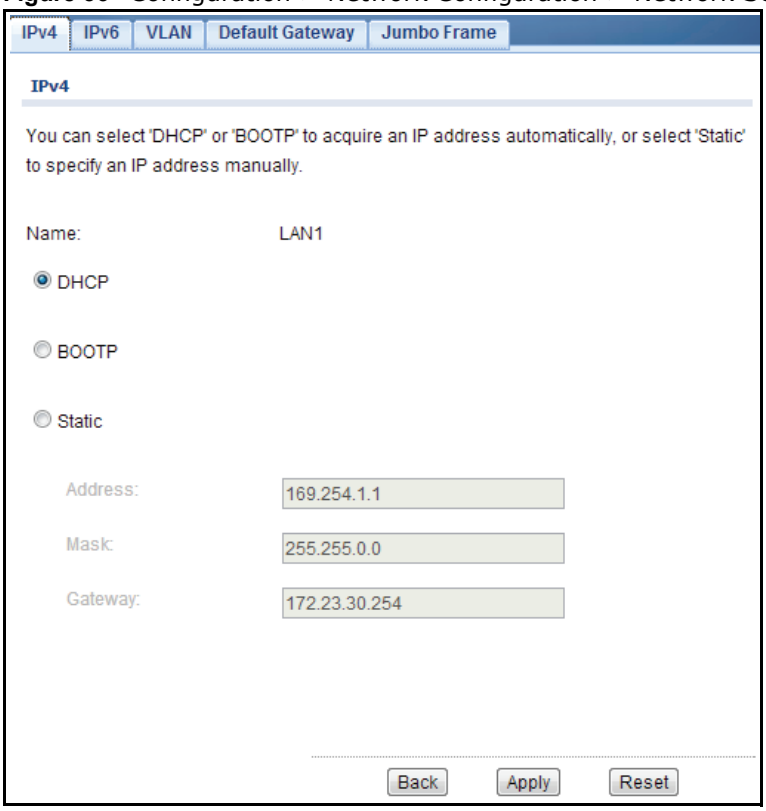
15.2.1 The Network Setting Edit Screen

The Edit function allows you to modify the properties of each network interface. Click the **Configuration** > **Network Configuration** > **Network Setting** > **Edit** to begin the process.

15.2.1.1 The Edit IPv4 Screen

Click **Configuration** > **Network Configuration** > **Network Setting** > **Edit > IPv4** to display the following screen.

Figure 36 Configuration > Network Configuration > Network Setting > Edit > IPv4



The following table describes the items on this screen.

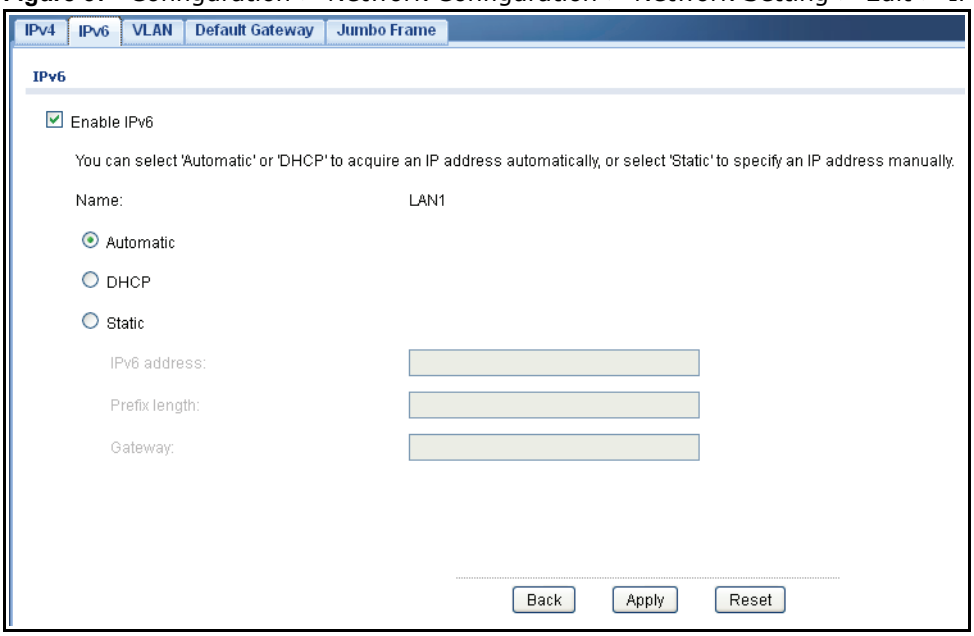
Table 24 Configuration > Network Configuration > Network Setting > Edit > IPv4

ITEM	DESCRIPTION
IPV4 Setting	
Name	Display the name of a network interface.
DHCP	By default, **DHCP** is selected.
BOOTP	Select **BOOTP** radio button to acquire an IP address automatically.
Static	Select **Static** radio button to specify an IP address manually.
Address	Enter the new IP address for the network setting.
Mask	Enter the new mask address for the network setting.
Gateway	Enter the new gateway address for the network setting.
Back	Click **Back** to go to the previous screen.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to change the screen to the default settings.

15.2.2 The Edit IPv6 Screen

Click **Configuration** > **Network Configuration** > **Network Setting** > **Edit** > **IPv6** to display the following screen.

Figure 37 Configuration > Network Configuration > Network Setting > Edit > IPv6



The following table describes the items on this screen.

Table 25 Configuration > Network Configuration > Network Setting > Edit > IPv6

ITEM	DESCRIPTION
IPv6	
Enable IPv6	Enable this check box to use the IPv6 feature.
Name	Display the name of a network interface.
Automatic	Select **Automatic** to let the system manage IPv6 address allocation.
DHCP	Select **DHCP** radio button to acquire an IP address dynamically.
Static	Select **Static** to specify an IP address manually.
IPv6 Address	Enter the new IPv6 address for the network setting.
Prefix Length	Enter the new subnet mask for the network setting.
Gateway	Enter the new gateway address for the network setting.
Back	Click **Back** to go to the previous screen.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to change the screen to the default settings.

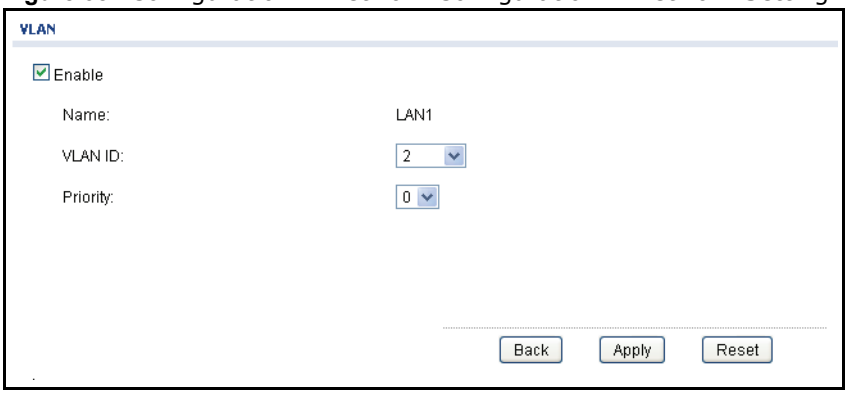
15.2.3 The Edit VLAN Screen

A Virtual LAN (VLAN) is a logical grouping mechanism implemented on network switches. Each VLAN is a collection of switching ports that comprises of a single broadcast domain in order to optimize the amount of network traffic.

Please refer to your network switch’s user guide for more information on how to create a VLAN environment. Most of the work is done on the switches. Make sure that your iSCSI port's VLAN ID matches the VLAN ID of the switch. If your network environment supports VLAN, you can click **Set VLAN ID** to change the settings. If network ports are assigned with VLAN ID before creating link

aggregation takes place, then link aggregation removes VLAN ID setting. In this case, repeat the configuration steps to set VLAN ID for the aggregation group. Click **Configuration** > **Network Configuration** > **Network Setting** > **Edit** > **VLAN** to display the following screen.

Figure 38 Configuration > Network Configuration > Network Setting > Edit > VLAN



The following table describes the items on this screen.

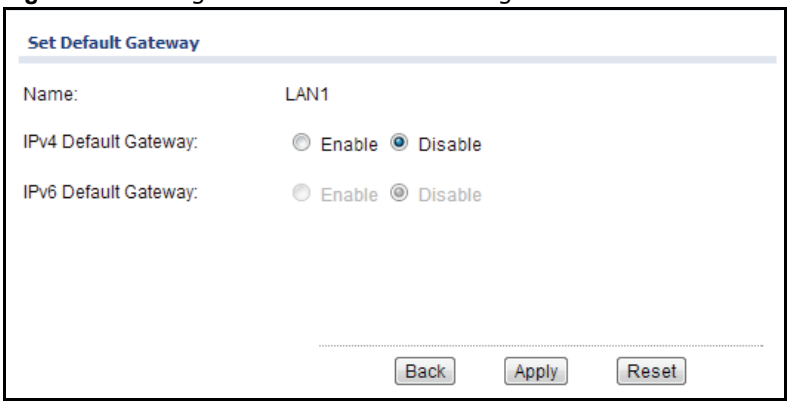
Table 26 Configuration > Network Configuration > Network Setting > Edit > VLAN

ITEM	DESCRIPTION
VLAN	
Enable	Select this to enable the VLAN function.
Name	Display the name of a network interface.
VLAN ID	Click the drop-down menu to select **VLAN ID**.
Priority	Click the drop-down menu to select **Priority**.
Back	Click **Back** to return to the previous screen.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

15.2.4 The Edit Default Gateway Screen

Click **Configuration** > **Network Configuration** > **Network Setting** > **Edit** > **Default Gateway** to display the following screen.

Figure 39 Configuration > Network Configuration > Network Setting > Edit > Default Gateway



The following table describes the items on this screen.

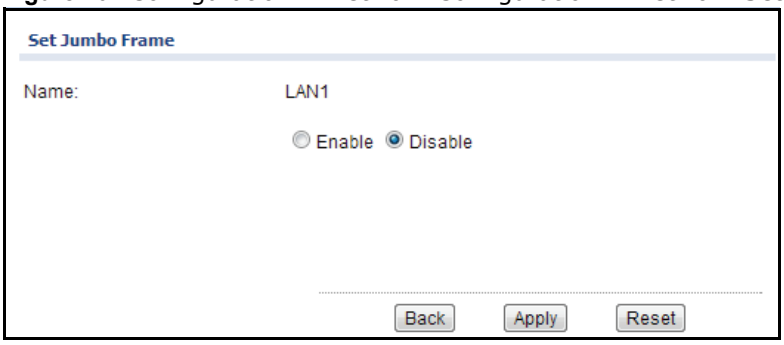
Table 27 Configuration > Network Configuration > Network Setting > Edit > Default Gateway

ITEM	DESCRIPTION
Set Default Gateway	
Name	Display the name of the default gateway network.
IPv4 Default: Gateway	Select **Enable** to set the gateway as default for IPv4 addresses. Select **Disable** to deactivate this function.
IPv6 Default: Gateway	Select **Enable** to set the gateway as default for IPv6 addresses. Select **Disable** to deactivate this function.
Back	Click **Back** to return to the previous screen.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

15.2.5 The Jumbo Frame Edit Screen

Click **Configuration** > **Network Configuration** > **Network Setting** > **Edit** > **Jumbo Frame** to display the following screen.

Figure 40 Configuration > Network Configuration > Network Setting > Edit > Jumbo Frame



The following table describes the items on this screen.

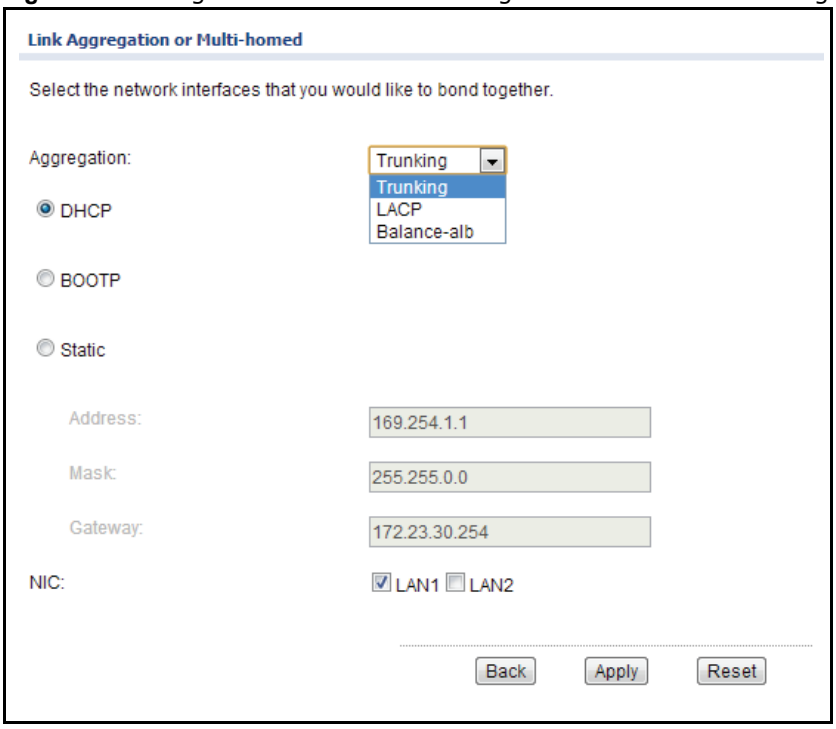
Table 28 Configuration > Network Configuration > Network Setting > Edit > Jumbo Frame

ITEM	DESCRIPTION
Set Jumbo Frame	
Name	Displays the name of the jumbo screen network. Select **Enable** to allow the network to handle jumbo frames. Select **Disable** to deactivate this function.
Back	Click **Back** to return to the previous screen.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

15.2.6 The Create Link Aggregation Screen

Click **Configuration** > **Network Configuration** > **Network Setting** > **Create Link Aggregation** to display the following screen.

Figure 41 Configuration > Network Configuration > Network Setting > Create Link Aggregation



The following table describes the labels on this screen.

Table 29 Configuration > Network Configuration > Network Setting > Create Link Aggregation

LABEL	DESCRIPTION
Link Aggregation or Multi-homed	
Aggregation	Select the following options from the drop-down menu. At least two network interfaces must be selected for link aggregation to work. Trunking: Configure multiple network ports in parallel to increase the link speed beyond the limits of any single port. LACP: Allows several physical ports to be bundled together to form a single logical channel. Balance-alb: Adaptive load balancing for balance-tlb and load balancing-rlb for IPV4 traffic.
DHCP	Select **DHCP** if this network interface uses DHCP.
BOOTP	Select **BOOTP** if this network interface uses BOOTP.
Static	Select **Static** if the network interface uses a manual IP address.
Address	Enter the IP address of the network interface.
Mask	Enter the mask address of the network interface.
Gateway	Enter the gateway address of the network interface.
NIC	Select the LAN ports to bond.
Back	Click **Back** to return to the previous screen.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

16

DNS Setting

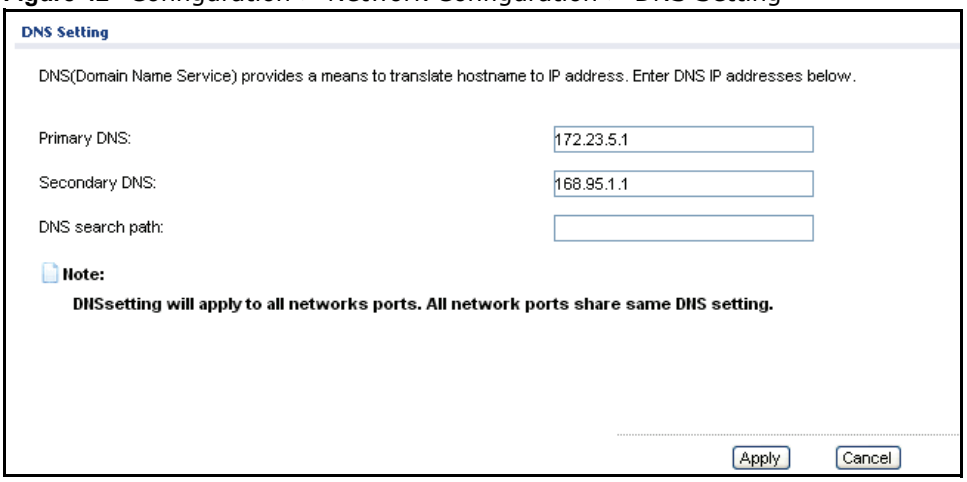
16.1 Overview

This chapter provides information for the **DNS settings** in **Configuration**.

16.2 DNS Setting

The **DNS Setting** option is used for accessing the **DNS (Domain Name Service) Setting**. You can use this option to change DNS IP addresses. Click **Configuration** > **Network Configuration** > **DNS Setting** to display the following screen.

Figure 42 Configuration > Network Configuration > DNS Setting


DNS Setting
DNS(Domain Name Service) provides a means to translate hostname to IP address. Enter DNS IP addresses below.
Primary DNS:
172.23.5.1
Secondary DNS:
168.95.1.1
DNS search path:
Note:
DNSsetting will apply to all networks ports. All network ports share same DNS setting.
Apply
Cancel

The following table describes the items on this screen.

Table 30 Configuration > Network Configuration > DNS Setting

ITEM	DESCRIPTION
DNS Setting	
Primary DNS	Enter your primary DNS server IP address.
Secondary DNS	Enter your secondary DNS server IP address.
DNS search path	Enter a comma-separated list for possible expansion of hotsnames. For example, if a search path domain is *nas.example.com, example.com*, and the search crawler encounters a target name *mydevice*, the search crawler tests *mydevice.nas.example.com* and *mydevice.example.com*.
Apply	Click **Apply** to save the changes.
Cancel	Click **Cancel** to discard the changes.

17

IP Filter Setting

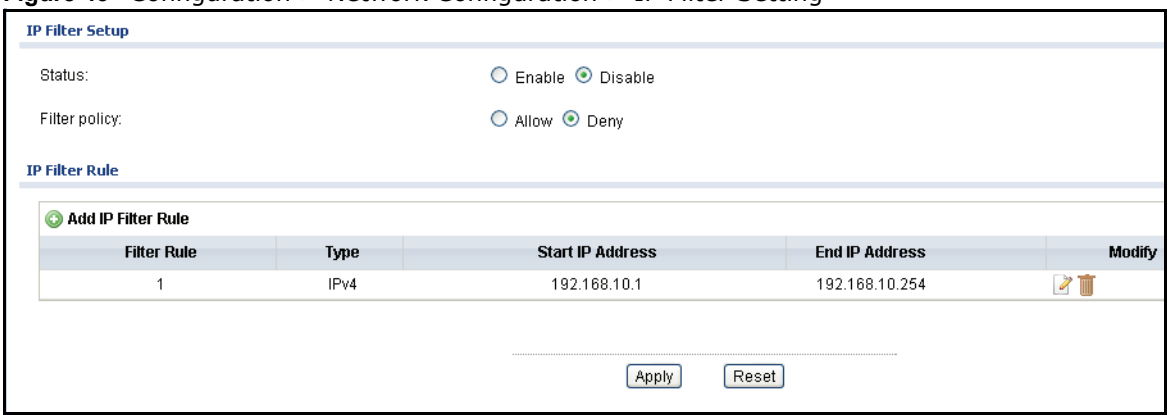
17.1 Overview

This chapter provides information for the **IP Filter Settings** in **Configuration**.

17.2 IP Filter Setting

The **IP Filter Setting** option is used for accessing **IP Filter Setup** and **IP Filter Rule** which offers the basic firewall function. Click **Configuration** > **Network Configuration** > **IP Filter Setting** to display the following screen.

Figure 43 Configuration > Network Configuration > IP Filter Setting



The following table describes the items on this screen.

Table 31 Configuration > Network Configuration > IP Filter Setting

ITEM	DESCRIPTION
IP Filter Setup	
Status	Select **Enable** to activate IP filter function. By default, **Disable** is selected.
Filter policy	Select **Allow** to allow IP addresses defined in IP Filter Rule. By default, **Deny** is selected.
IP Filter Rule	
Add IP Filter Rule	Click **Add IP Filter Rule** to define a new IP filter rule.
Filter Rule	Displays the ID number for the filter rule.
Start IP Address	Displays the starting IP address for this filter rule.
End IP Address	Displays the ending IP address for this filter rule.
Modify	

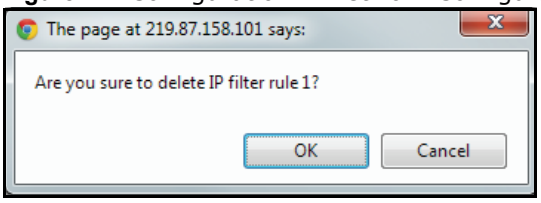
Table 31 Configuration > Network Configuration > IP Filter Setting (continued)

ITEM	DESCRIPTION
Edit	Click **Edit** to modify the selected IP filter rule settings: Filter Rule, Type, Start IP Address, and End IP Address.
Delete	Click **Delete** to delete the IP filter rule.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

In the Modify column, the **Delete** option allows you to delete a pre-existing rule.

Click **Delete** and confirm at the pop-up screen to complete the deletion.

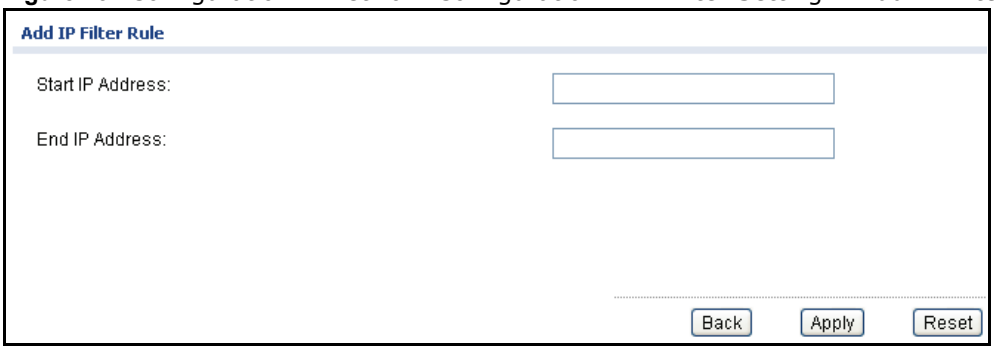
Figure 44 Configuration > Network Configuration > IP Filter Setting > Delete



17.2.1 The Add IP Filter Rule Screen

Click **Configuration** > **Network Configuration** > **IP Filter Setting > Add IP Filter Rule** to display the following screen.

Figure 45 Configuration > Network Configuration > IP Filter Setting > Add IP Filter Rule



The following table describes the items on this screen.

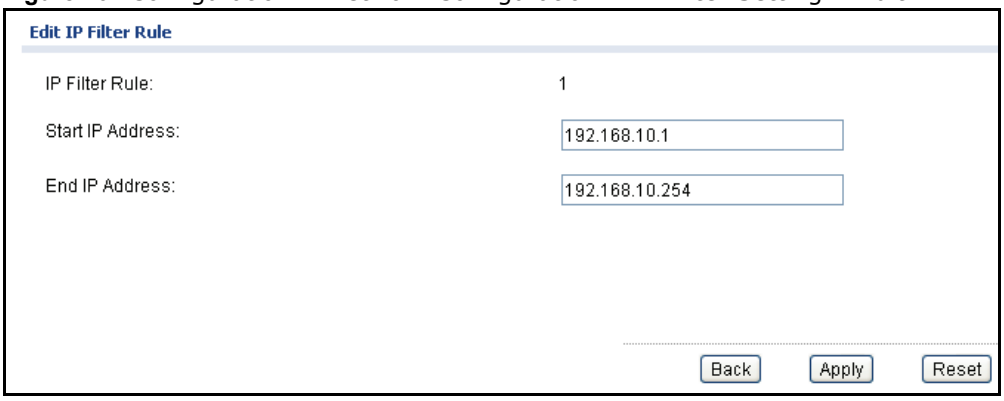
Table 32 Configuration > Network Configuration > IP Filter Setting > Add IP Filter Rule

ITEM	DESCRIPTION
Add IP Filter Rule	
Start IP Address	Enter your starting IP address. For instance, 192.168.10.1
End IP Address	Enter your last IP address. For instance, 192.168.10.254
Back	Click **Back** to go to the previous screen.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to change the screen to the default settings.

17.2.2 The Edit IP Filter Rule Screen

Click **Configuration** > **Network Configuration** > **IP Filter Setting > Edit** to display the following screen.

Figure 46 Configuration > Network Configuration > IP Filter Setting > Edit



The following table describes the items on this screen.

Table 33 Configuration > Network Configuration > IP Filter Setting > Edit

LABELS	DESCRIPTIONS
Edit IP Filter Rule	
IP Filter Rule	Displays the IP filer rule number.
Start IP Address	Enter the starting IP address for this rule.
End IP Address	Enter the last IP address for this rule.
Back	Click **Back** to go to the previous screen.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to change the screen to the default settings.

18

Physical Disk

18.1 Overview

This chapter provides information for **Physical Disk** in **Storage Configuration**.

18.1.1 Storage Configuration

The section covers a brief introduction to storage methods and management of storage pools and disks.

The following is a reference guide to help you select a storage method for the various number of disks supported on the UNS Series. Redundant Array of Independent Disks (RAID) is a storage method of storing data on multiple disks to provide a combination of greater capacity, reliability, and/or speed.

Disk Striping (RAID Level 0)

RAID 0 provides a high level of disk I/O performance without fault tolerance. RAID 0 does not have a minimum hard drive requirement.

Disk Mirroring (RAID Level 1)

RAID 1 provides high data reliability (100% data redundancy) at a reduced performance speed. RAID 1 requires a minimum of two drives.

Independent Access Array with Rotating Parity (RAID Level 5)

RAID 5 distributes data across multiple disks while protecting the data against a single disk failure. In the event of a failure of any disk member, the parity will be used to rebuild the contents of the failed drive on the new one. RAID 5 requires a minimum of three drives.

Disk Striping with Double Distributed Parity (RAID Level 6)

RAID 6 distributes the data across multiple disks and protects against a two-disk failure. This RAID level is designed for mission critical applications. RAID 5 and 6 display the same performance level. RAID 6 requires a minimum of four drives.

Striping over RAID 5 volumes (RAID Level 50)

RAID 50 is a combination of RAID 5 and RAID 0 distributed parity (RAID 5) and data striping across multiple disks (RAID 0). RAID 50 offers high reliability and transfer rate aggregation. RAID 50 requires a minimum of six drives.

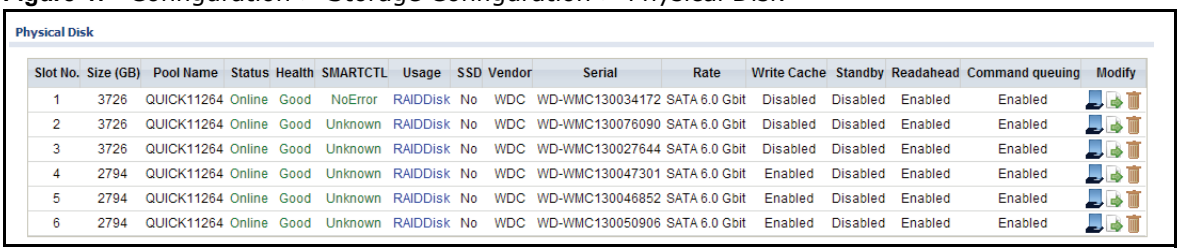
Striping over RAID 6 volumes (RAID Level 60)

RAID 60 is a combination of RAID 6 and RAID 0 for double distributed parity (RAID 6). The data is striped across multiple disks offering support for larger volumes. RAID 60 features the safest RAID mode.

18.2 Physical Disk

The **Physical disk** option gives you the hard drive status. Click **Configuration** > **Storage Configuration** > **Physical Disk** to display the following screen.

Figure 47 Configuration > Storage Configuration > Physical Disk


Physical Disk
Slot No. Size (GB) Pool Name Status Health SMARTCTL Usage SSD Vendor Serial Rate Write Cache Standby Readahead Command queuing Modify
1 3726 QUICK11264 Online Good NoError RAIDDisk No WDC WD-WMC130034172 SATA 6.0 Gbit Disabled Disabled Enabled Enabled
2 3726 QUICK11264 Online Good Unknown RAIDDisk No WDC WD-WMC130076090 SATA 6.0 Gbit Disabled Disabled Enabled Enabled
3 3726 QUICK11264 Online Good Unknown RAIDDisk No WDC WD-WMC130027644 SATA 6.0 Gbit Disabled Disabled Enabled Enabled
4 2794 QUICK11264 Online Good Unknown RAIDDisk No WDC WD-WMC130047301 SATA 6.0 Gbit Enabled Disabled Enabled Enabled
5 2794 QUICK11264 Online Good Unknown RAIDDisk No WDC WD-WMC130046852 SATA 6.0 Gbit Enabled Disabled Enabled Enabled
6 2794 QUICK11264 Online Good Unknown RAIDDisk No WDC WD-WMC130050906 SATA 6.0 Gbit Enabled Disabled Enabled Enabled

The following table describes the items on this screen.

Table 34 Configuration > Storage Configuration > Physical Disk

ITEM	DESCRIPTION
Slot	The position of a hard drive. The button next to the number of slot shows the functions which can be executed.
Size (GB)	Hard drive capacity. The unit can be displayed in GB or MB.
Pool Name	Pool name.
Status	The status of the hard drive: • Online: the hard drive is online. • Rebuilding: the hard drive is being rebuilt. • Degraded: one of the RAID set is in degraded mode. • Failed: one of the RAID set is in failed mode. • Importing: the system is loading data from the disks, which means the pool is not ready for use yet.
Health	Displays the health status of the hard drive: • Good: healthy state. • Failed: there are errors or the drive has failed. • Error alert: there is a S.M.A.R.T. error alert. • Read errors: there are unrecoverable read errors. • Reserved: One of the RAID member disks contains RAID group and pool information and is not found. Either the disk is not in the original slot or has been changed to a free disk.
SMART CTL	The SMART of the hard drive: • Unknown: the SMART of the hard drive is unknown. • NoError: the SMART of the hard drive has no error. • HasError: the SMART of the hard drive has errors.
Usage	Displays the set usage type for the hard drive: • RAID disk: The hard drive is set to a RAID group. • Free disk: The hard drive contains free hard disk space. • Dedicated spare: The hard drive is set as a dedicated spare of a pool.

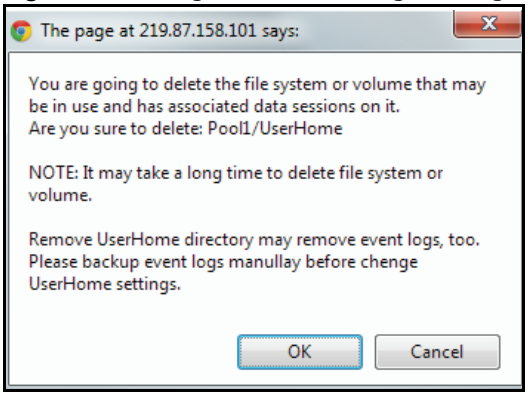
Table 34 Configuration > Storage Configuration > Physical Disk

ITEM	DESCRIPTION
SSD	Displays if there are SSDs available: no or yes.
Vendor	Displays the hard drive vendor.
Serial	Displays the hard drive serial numbers.
Rate	Hard drive rate: • SATA 6Gb/s • SATA 3Gb/s • SATA 1.5Gb/s
Write cache	Displays the **Write cache** status: enabled (default) or disabled.
Standby	Displays the **Standby** (powering down HDD spin for energy saving) status: enabled (default) or disabled.
Readahead	Displays the **Readahead** status: enabled (default) or disabled. This feature loads data to the disk's buffer in advance for further usage.
Command queuing	Displays the **Command queuing** status: enabled (default) or disabled. This function allows commands to be stored in a queue and then executed one at a time. Newer SATA and most SCSI disks support this feature.
Modify	
SMARTCTL self-test inactive	Click **SMARTCTL self-test inactive** to start the S.M.A.R.T. test.
Download SMARTCTL log	Click **Download SMARTCTL log** to download the S.M.A.R.T. log file.
Set Free Disk	Click **Set Free Disk** to free up hard disk space.

In the Modify column, the **Delete** option allows you to delete pre-existing files or volumes.

Click **Delete** and confirm at the pop-up screen to complete the deletion.

Figure 48 Configuration > Storage Configuration > ZFS > Delete


The page at 219.87.158.101 says:
You are going to delete the file system or volume that may be in use and has associated data sessions on it.
Are you sure to delete: Pool1/UserHome
NOTE: It may take a long time to delete file system or volume.
Remove UserHome directory may remove event logs, too. Please backup event logs manullay before chenge UserHome settings.
OK
Cancel

19

Pool

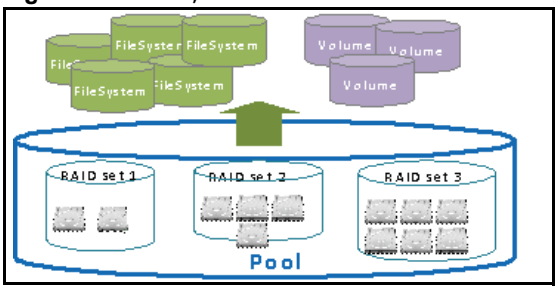
19.1 Overview

The following chapter provides information on **Pool** in **Storage Configuration**.

19.2 Pool

A storage pool or a pool is a set of managed hard disks that represents a logical unit of physical storage. Inside the pool, all hard disks are organized into different levels of RAID sets. A pool can be made of up of 512 RAID sets. Both iSCSI s (Volumes) and file systems are created based on the pool. You can add spare disks to a storage pool for expanding the existing storage. Please refer to the following figure for more information.

Figure 49 Pools, Volumes and RAID



The **Pool** option offers various functions to manage storage pool such as creating, expanding, and setting home directory, deleting, or viewing the status of the pools. Click **Configuration** > **Storage Configuration** > **Pool** to display the following screen.

Figure 50 **Configuration** > **Storage Configuration** > **Pool**

Pool

Create Import Encrypt Key

Name	Total (GB)	Used (GB)	Free (GB)	Free Capacity	Dedup	Status	Home	RAID Set Slot	Spares Slot	Read Cache Slot	Write Cache Slot	Modify
Pool1	2740.5	200	2540.5	0%	1.00x	Online	No	RAID 0 (Local: 6)				
test1234	3654	0	3653.99	0%	1.00x	Online	Yes	RAID 0 (Local: 1)				

The following table describes the items on this screen.

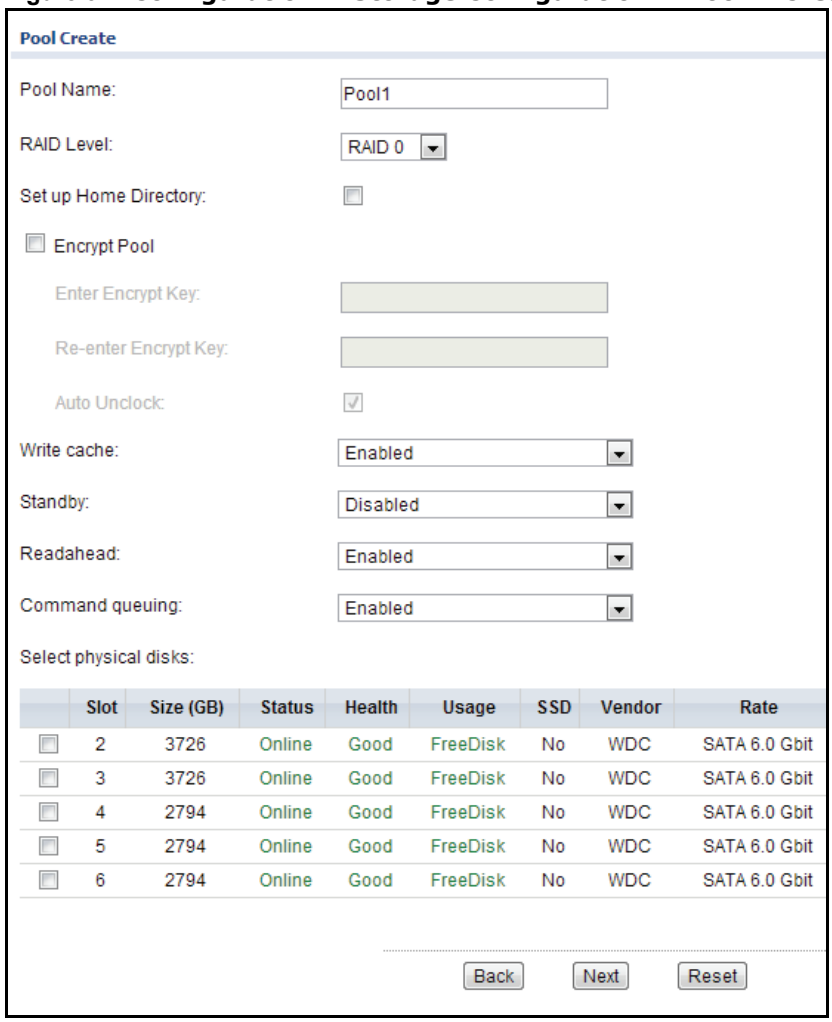
Table 35 Configuration > Storage Configuration > Pool

LABELS	DESCRIPTIONS
Create	Click **Create** to open the Pool Create screen.
Import Encrypt Key	Click this to select and import a pool encrypt key.
Name	The name of this storage pool.
Total (GB)	The total capacity of this storage pool.
Used (GB)	The amount of capacity that is being used by this storage pool.
Free (GB)	Display free space of this storage pool.
Free Capacity	Display the percentage or the capacity.
Dedup	Display the status of deduplication.
Status	The following are the statuses: • Online: the pool is good. • Failed: the pool fails. • Rebuild: the pool is being rebuilt.
Home	Display whether the home directory is inside the storage pool.
RAID set slot	Display the slot number of the RAID set.
Spares slot	Display the slot number of the spare disk.
Read cache slot	Displays the SSD drives used as read cache (L2ARC).
Write cache slot	Displays the SSD drives used as write cache (ZIL).
Modify	
Edit	Click **Edit** to display the **Pool Edit**, **Reach Cache**, and **Write Cache** screens.
Expand	Click **Expand** to add more RAID sets to the same pool in order to expand the capacity.
Pool Edit	Select Edit to modify the disk properties: write cache, standby, readahead, command queuing and auto lock.
Read Cache	Select to assign connected SSD drives for reading cache (L2ARC).
Write Cache	Select to assign connected SSD drives for writing to cache (ZIL).
Scrub	Click **Scrub** to perform scrubbing for the storage pool in order to make sure there is no defect in the hard drive.

19.2.1 Pool Create Screen

Click **Configuration** > **Storage Configuration** > **Pool > Create** to display the following screen.

Figure 51 Configuration > Storage Configuration > Pool > Create



The following table describes the items on this screen.

Table 36 Configuration > Storage Configuration > Pool > Create

LABELS	DESCRIPTIONS
Pool Name	Enter the name for the storage pool.
RAID Level	Click this to select the RAID type for the storage pool.
Set up Home Directory	Click this to designate a home directory for the storage pool.
Encrypt Pool	Click this to assign an encrypt key for the storage pool.
Enter Encrypt Key	Enter the encryption phrase for this pool.
Re-enter Encrypt Key	Re-enter the encryption phrase to confirm.
Auto Unclock	Select **Auto Unclock** to automatically unlock the encrypted folder after a successful key entry.
Write cache	Click this to enable write caching on hard drives.

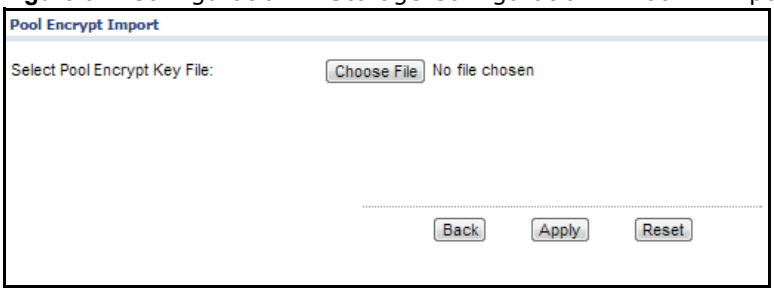
Table 36 Configuration > Storage Configuration > Pool > Create (continued)

LABELS	DESCRIPTIONS
Standby	Click this to enable auto spindown on hard drives. Spindown allows the hard drives to enter a power saving mode if there is no I/O access after a set period of time.
Readahead	Click this to enable file prefetching to populate the page cache with data from a file, subsequent reads from that file dol not block on disk I/O.
Command queuing	Click this to enable command queuing; command executions are placed in a queue, either in order of priority, on a first-in first-out basis, or in any order that serves the current purpose allowing the program to continue with other functions.
Select physical disks	Select the physical disks to include in the new Pool.
Slot	Displays the slot location on the device.
Size (GB)	Displays the total capacity of the disk.
Status	Displays the current status of the disk: Online / Failed.
Health	Displays the current health of the disk: Good, Failed, Error alert, Read errors, or Reserved.
Usage	Displays the usage status of the disk: RAID, Free disk, or Dedicated spare.
SSD	Identifies if the disk is an SSD device: No / Yes.
Vendor	Displays the vendor name of the disk.
Rate	Displays the disk rate: SATA 1.5/3/6 (Gb/s)
Back	Click **Back** to go to the previous screen.
Next	Click **Next** to continue and confirm the changes.
Reset	Click **Reset** to discard the changes.

19.2.2 The Pool Import Encrypt Key Screen

Click **Configuration** > **Storage Configuration** > **Pool > Import Encrypt Key** to display the following screen.

Figure 52 Configuration > Storage Configuration > Pool > Import Encrypt Key



The following table describes the items on this screen.

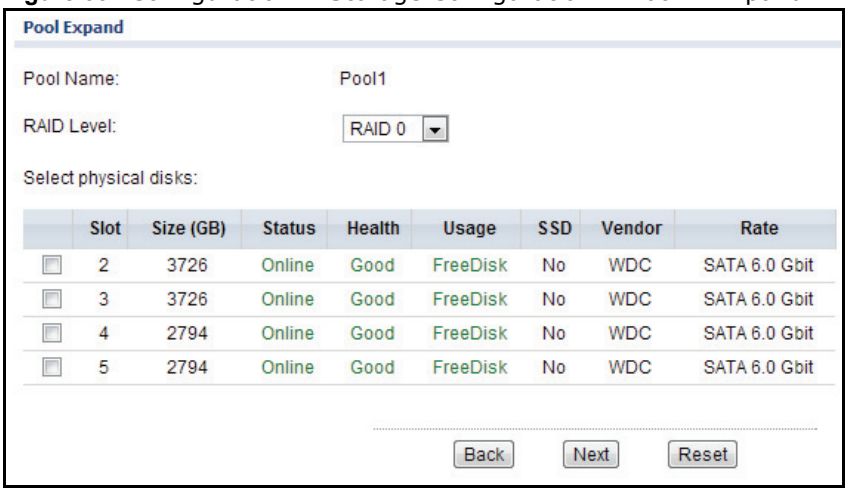
Table 37 Configuration > Storage Configuration > Pool > Import Encrypt Key

LABELS	DESCRIPTIONS
Pool Encrypt Import	
Select Pool Encrypt Key File	Click **Choose File** to browse and select a key file.
Back	Click **Back** to go to the previous screen.
Apply	Click **Apply** to confirm the changes.
Reset	Click **Reset** to discard the changes.

19.2.3 Pool Expand Screen

Click **Configuration** > **Storage Configuration** > **Pool > Expand** to display the following screen.

Figure 53 Configuration > Storage Configuration > Pool > Expand



The following table describes the items on this screen.

Table 38 Configuration > Storage Configuration > Pool > Expand

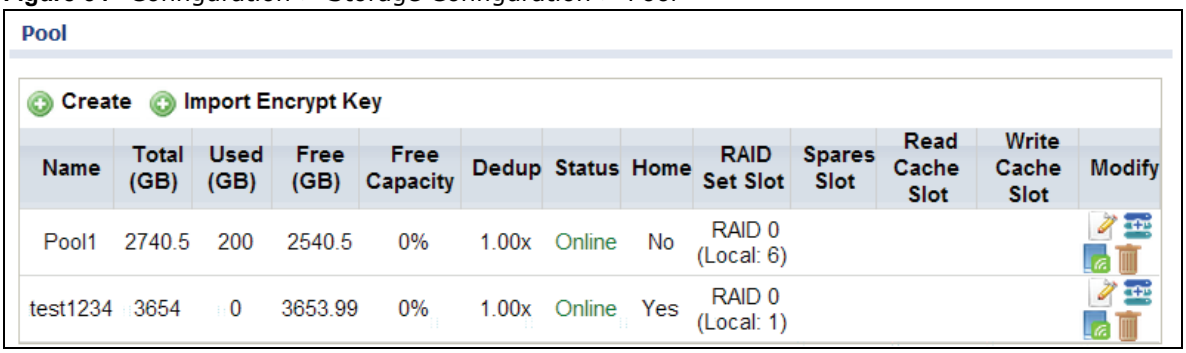
LABELS	DESCRIPTIONS
Pool Name	Enter the name for the storage pool.
RAID Level	Click this to select the RAID type for the storage pool.
Select physical disks	Select the disks to include in the pool expansion. Note: Different RAID levels require different minimum number of disks.
Slot	Displays the slot location on the device.
Size (GB)	Displays the total capacity of the disk.
Status	Displays the current status of the disk: Online / Failed.
Health	Displays the current health of the disk: Good, Failed, Error alert, Read errors, or Reserved.
Usage	Displays the usage status of the disk: RAID, Free disk, or Dedicated spare.
SSD	Identifies if the disk is an SSD device: No / Yes.
Vendor	Displays the vendor name of the disk.
Rate	Displays the disk rate: SAS 3/6 (GB/s), SATA 1.5/3/6 (Gb/s)
Back	Click **Back** to go to the previous screen.
Next	Click **Next** to continue and confirm the changes.
Reset	Click **Reset** to discard the changes.

19.2.3.1 Expanding a Pool

The following instructions provide an example for expanding a pool capacity. In the example, Pool1 is used to expand its capacity by adding a RAID set. For instruction purposes, a RAID 5 set with 4 disks will be added to Pool1.

In the Figure 54, Pool1 is configured as a RAID 0 (two disks) pool.

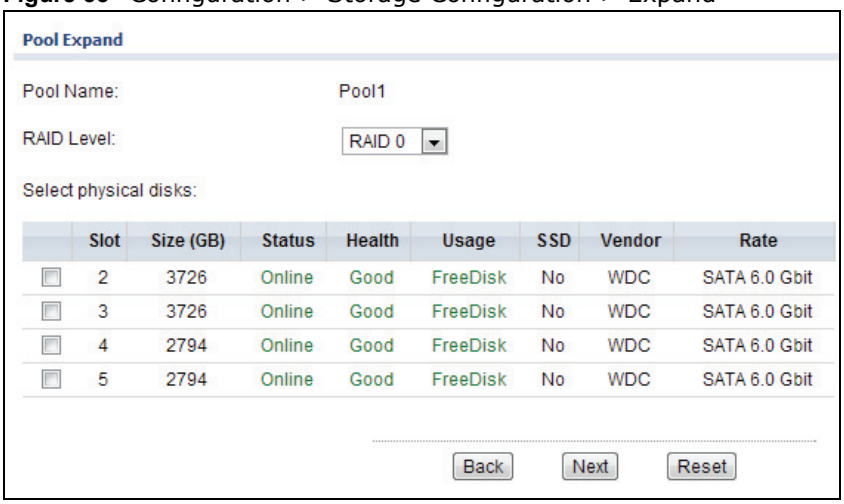
Figure 54 Configuration > Storage Configuration > Pool



1 Select a Pool and click **Expand** in the **Modify** field.

The Pool Expand screen displays

Figure 55 Configuration > Storage Configuration > Expand



2 In RAID Level, click the drop-down menu and select RAID 5.

3 Three disk drives are required for the RAID 5 level.
Select three disks from the **Select physical disks** table.

4 Click **Next** to confirm the expansion process.

The Pool Expand Confirm screen displays.

5 Click **Apply** to save the new changes or **Back** to return to the previous screen. Alternatively, click **Reset** to delete any changes and return to the main screen.

In the Total (GB), the Pool1 capacity is extended.

In the RAID Set Slot, the new RAID 5 set is included.

20

ZFS

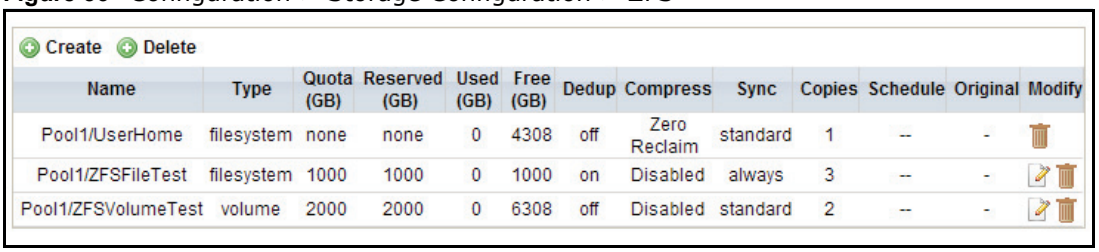
20.1 Overview

The following chapter provides information for Zettabyte File System (ZFS) or Z file system (ZFS) in **Storage Configuration**.

20.2 ZFS

The **ZFS** option provides functions for managing the ZFS datasets such as creating, editing, deleting, taking a snapshot, auto snapshot or viewing the status of ZFS. Click **Configuration** > **Storage Configuration** > **ZFS** to display the following screen.

Figure 56 Configuration > Storage Configuration > ZFS



The following table describes the labels on this screen.

Table 39 Configuration > Storage Configuration > ZFS

LABELS	DESCRIPTIONS
Create	Click **Create** to setup a new File System or Volume.
Delete	Displays the name of the dataset.
Name	Displays the name of the dataset.
Type	Displays the dataset type: file system or a volume.
Quota (GB)	Displays the designated quota for the selection.
Reserved (GB)	Displays the reserved capacity for the selection.
Used (GB)	Displays the current used capacity for the selection.
Free (GB)	Displays the current available capacity for the selection.
Dedup	Displays the status of Dedup: on/off.
Compress	Displays the assigned compression type: Disable, Zero Reclaim, Generic Zero Reclaim, Enable.
Sync	Displays the sync setting: disabled, standard, or always.
Copies	Displays the number of data copies.
Schedule	Displays the status of the schedule.

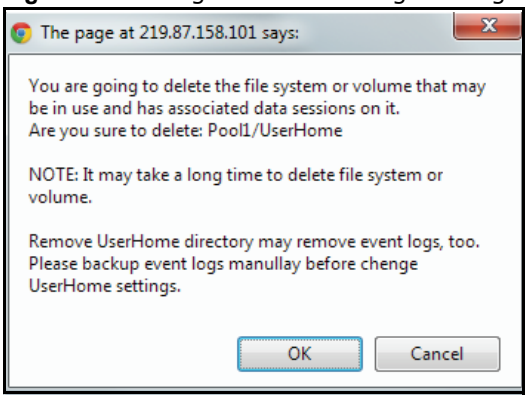
Table 39 Configuration > Storage Configuration > ZFS (continued)

LABELS	DESCRIPTIONS
Original	Displays the original dataset type.
Modify	
Edit	Click **Edit** to configure the properties of the dataset.
Delete	Click **Delete** to delete the dataset.

In the Modify column, the **Delete** option allows you to delete pre-existing files or volumes.

Click **Delete** and confirm at the pop-up screen to complete the deletion.

Figure 57 Configuration > Storage Configuration > ZFS > Delete


The page at 219.87.158.101 says:
You are going to delete the file system or volume that may be in use and has associated data sessions on it.
Are you sure to delete: Pool1/UserHome
NOTE: It may take a long time to delete file system or volume.
Remove UserHome directory may remove event logs, too. Please backup event logs manullay before chenge UserHome settings.
OK
Cancel

20.2.1 The ZFS Create Screen

Use this screen to create a file system or a volume. Click **Configuration** > **Storage Configuration** > **ZFS** > **Create** to show the following screen.

Figure 58 Configuration > Storage Configuration > ZFS > Create

The following table describes the items in this screen.

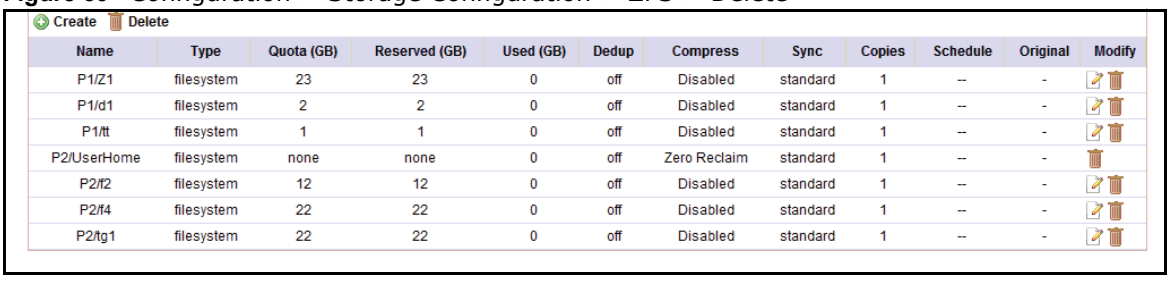
Table 40 Configuration > Storage Configuration > ZFS > Create

LABEL	DESCRIPTION
Name	Enter a Name for the file system or volume.
Pool	Click the drop-down menu to select the home pool.
Type	Select the type of dataset to create: file system or volume.
Property	Select the storage technology for this dataset: thin provisioning or deduplication. Thin provisioning: dynamically allocate space as required in a storage area network for file system and volume. There is no size quota or reserved size for thin provisioning as it uses the available size of the storage pool for the upper size limit. Deduplication: the compression of data by storing only changes to the original data for file system and volume. This storage method is highly dependent on the size of memory.
Compression	Use this to select the type of compression: Disable (no compression), zero reclaim, generic zero reclaim, or enable.
Sync	Use this to select the type of synchronization method for the new file system. It is disabled for the volume type. Disabled: All write commands become asynchronous. It will ignore the synchronous transaction demands of applications such as database or NFS. Standard (default): dependent on the application. Always: All write commands become synchronous even if the application issues asynchronous transactions.
Number of Data Copies	Use this to select the number of data copies to create: one, two or three.
Size	Use this to enter the size (GB or MB) for the file system or volume.
Back	Click the **Back** button to return to the previous page.
Apply	Click the **Apply** button to save the new settings.
Reset	Click the **Reset** button to return to the previous page.

20.2.2 The ZFS Delete Screen

Use this screen to create a file system or a volume. Click **Configuration** > **Storage Configuration** > **ZFS** > **Delete** to show the following screen.

Figure 59 Configuration > Storage Configuration > ZFS > Delete


Create
Delete
Name
Type
Quota (GB)
Reserved (GB)
Used (GB)
Dedup
Compress
Sync
Copies
Schedule
Original
Modify
P1/Z1 filesystem 23 23 0 off Disabled standard 1 -- -
P1/d1 filesystem 2 2 0 off Disabled standard 1 -- -
P1/tt filesystem 1 1 0 off Disabled standard 1 -- -
P2/UserHome filesystem none none 0 off Zero Reclaim standard 1 -- -
P2/f2 filesystem 12 12 0 off Disabled standard 1 -- -
P2/f4 filesystem 22 22 0 off Disabled standard 1 -- -
P2/tg1 filesystem 22 22 0 off Disabled standard 1 -- -

The following table describes the items in this screen.

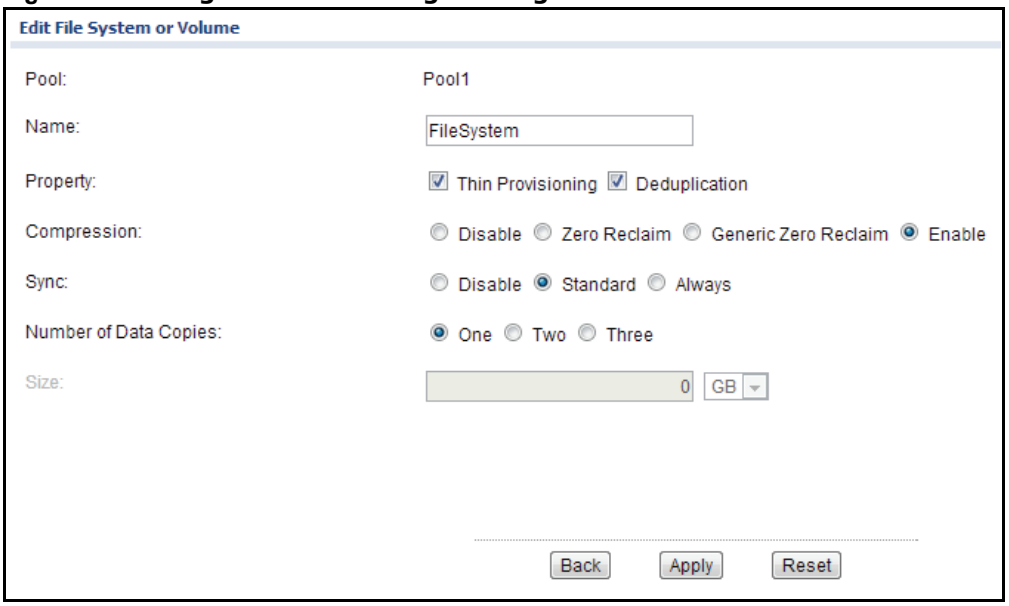
Table 41 Configuration > Storage Configuration > ZFS > Delete

LABEL	DESCRIPTION
Name	Displays the Name of the file system or volume.
Type	Displays the type of dataset: file system or volume.
Quota (GB)	Displays the designated quota for the selection.
Reserved (GB)	Displays the reserved capacity for the selection.
Used (GB)	Displays the current used capacity for the selection.
Dedup	Displays the status of Dedup: on/off
Compress	Displays the assigned compression type: Disable, Zero Reclaim, Generic Zero Reclaim, Enable.
Sync	Displays the sync setting: disabled, standard, or always.
Copies	Displays the number of data copies.
Schedule	Displays the status of the schedule.
Original	Displays the original dataset type.
Back	Click the **Back** button to return to the previous page.
Apply	Click the **Apply** button to save the new settings.
Reset	Click the **Reset** button to return to the previous page.

20.2.3 The ZFS Edit File System or Volume Screen

Thin provisioning is a dynamic process of allocating the exact required amount of storage space at the time it is required. This feature can be applied to both file systems and volumes. Thin provisioning improves storage efficiency by removing stranded or reserved-but-unused disk capacity.

Figure 60 Configuration > Storage Configuration > ZFS > Edit



The following table describes the items in this screen.

Table 42 Configuration > Storage Configuration > ZFS > Edit

LABEL	DESCRIPTION
Pool	Displays the assigned Pool.
Name	Displays the current name of the file system or volume. Enter a new name to replace the current one.
Property	Select the storage technology for this dataset: thin provisioning and/or deduplication.
Compression	Use this to select the type of compression: Disable (no compression), zero reclaim, generic zero reclaim, or enable.
Sync	Use this to select the type of synchronization method for the new file system. It is disabled for the volume type. Disabled: All write commands become asynchronous. It will ignore the synchronous transaction demands of applications such as database or NFS. Standard (default): dependent on the application. Always: All write commands become synchronous even if the application issues asynchronous transactions.
Number of Data Copies	Use this to select the number of data copies to create: one, two or three.
Size	Use this to enter the size (GB or MB) for the file system or volume. Note: The value can not be assigned when Thin Provisioning is selected.
Back	Click the **Back** button to return to the previous page.
Apply	Click the **Apply** button to save the new settings.
Reset	Click the **Reset** button to return to the previous page.

21 Share

21.1 Overview

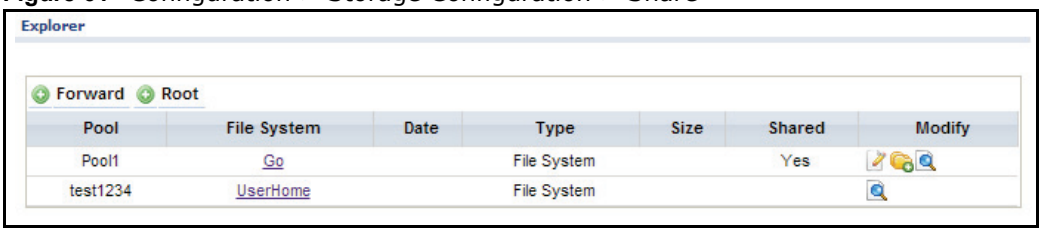
This chapter provides information for Share in Storage Configuration. Share covers network and system storage management.

21.2 Explorer

The **Sharing Configuration** menu consists of the following options: **Explorer** and **Shares**.

The **Explorer** option provides you with features such as file system/volume creation, system/volume edition, file system/volume deletion, folder creation for file system, taking a snapshot, auto snapshot, adding share for file system, attaching for volume or browsing the whole storage pool structure. Click **Configuration** > **Storage Configuration** > **Share** to display the following screen.

Figure 61 Configuration > Storage Configuration > Share



The following table describes the labels on this screen.

Table 43 Configuration > Storage Configuration > Share

LABELS	DESCRIPTION
Explorer	
Forward	Click this to move forward on the directory tree.
Root	Click this to return to the directory root.
Pool	Displays the pool name of the current file system
File System	Click to display the file system folder.
Date	Displays the creation date for the file system.
Type	Displays the type storage type.
Size	Displays pool size in GB.
Shared	Displays the if a share service(s) is enabled or disabled for this pool.
Modify	

Table 43 Configuration > Storage Configuration > Share (continued)

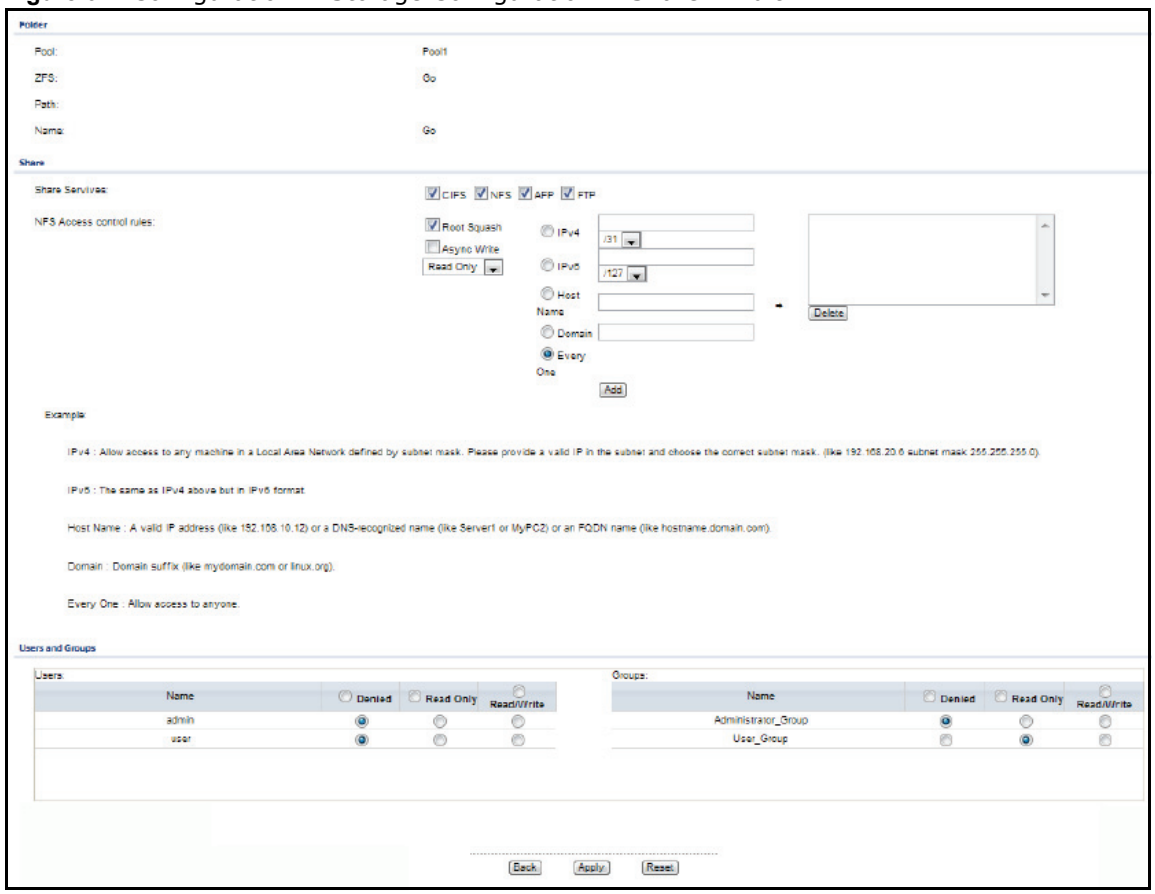
LABELS	DESCRIPTION
Edit	Select this to edit Folder Settings and WebDAV.
Create Folder	Click this to create a new folder in the pool.
Search Files	Click this to Search for a user-specified file in the pool. The file path is displayed on successful searches.

21.2.1 Explorer Edit

21.2.1.1 The Folder Settings Screen

Click **Configuration** > **Storage Configuration** > **Share** > **Edit** to display the following screen.

Figure 62 Configuration > Storage Configuration > Share > Edit



The following table describes the labels on this screen.

Table 44 Configuration > Storage Configuration > Share > Edit

LABELS	DESCRIPTION
Folder	
Pool	Displays the pool name.
ZFS	Display the ZFS volume name.
Path	Displays the folder path.

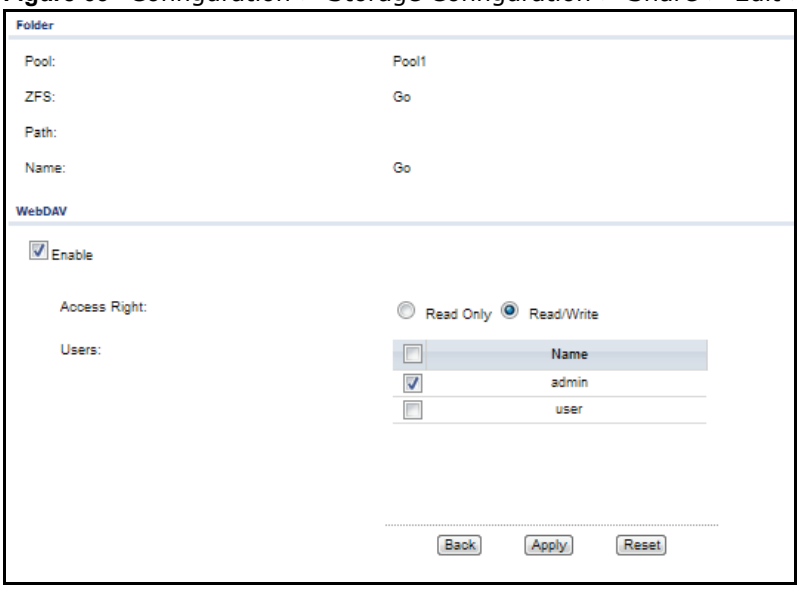
Table 44 Configuration > Storage Configuration > Share > Edit (continued)

LABELS	DESCRIPTION
Name	Displays the folder name.
Share	
Share Services	Select all or a single share service to enable: CIFS, NFS, AFP, and FTP.
NFS Access control rules	Select and enter the information to configure the NFS access control rules. Root Squash Async Write IPv4: Enter the IP address (IPV4 format) to grant access to the shared folder. IPv6: Enter the IP address (IPV6 format) to grant access to the shared folder. Host Name: Enter a valid IP address (ex.: 192.168.10.12) or a DNS-recognized name (ex.: Server1 or MyPC2) or an FQDN name (ex.: hostname.domain.com). Domain: Enter a domain suffix (like mydomain.com or linux.org). Everyone: Select to provide access to everyone. Add: Click **Add** to add the rule. Delete: Select a rule and click **Delete** to remove it.
Users and Groups	
Users	
admin	Select the access level (Denied, Read Only, or Read/Write) to assign this profile.
user	Select the access level (Denied, Read Only, or Read/Write) to assign this profile.
Groups	
Administrator_Group	Select the access level (Denied, Read Only, or Read/Write) to assign this group profile.
User_Group	Select the access level (Denied, Read Only, or Read/Write) to assign this group profile.
Back	Click **Back** to go to the previous screen.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

21.2.1.2 The Explorer WebDAV Screen

Click **Configuration** > **Storage Configuration** > **Share** > **Edit** > **WebDAV** to display the following screen.

Figure 63 Configuration > Storage Configuration > Share > Edit > WebDAV



The following table describes the labels on this screen.

Table 45 Configuration > Storage Configuration > Share > Edit > WebDAV

LABELS	DESCRIPTION
Folder	
Pool	Displays the pool name.
ZFS	Display the ZFS volume name.
Path	Displays the folder path.
Name	Displays the folder name.
WebDAV	
Enable	Click to enable or disable WebDAV access rights.
Access Right	Click to set Read Only or set Read/Write.
Users	Click to select all or specific users.
Back	Click **Back** to go to the previous screen.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

21.2.2 The Explorer Create Folder Screen

Click **Configuration** > **Storage Configuration** > **Share** > **[File System]** > **Create Folder** to display the following screen.

Figure 64 Configuration > Sharing Configuration > Share > [File System] > Create Folder

The following table describes the labels on this screen.

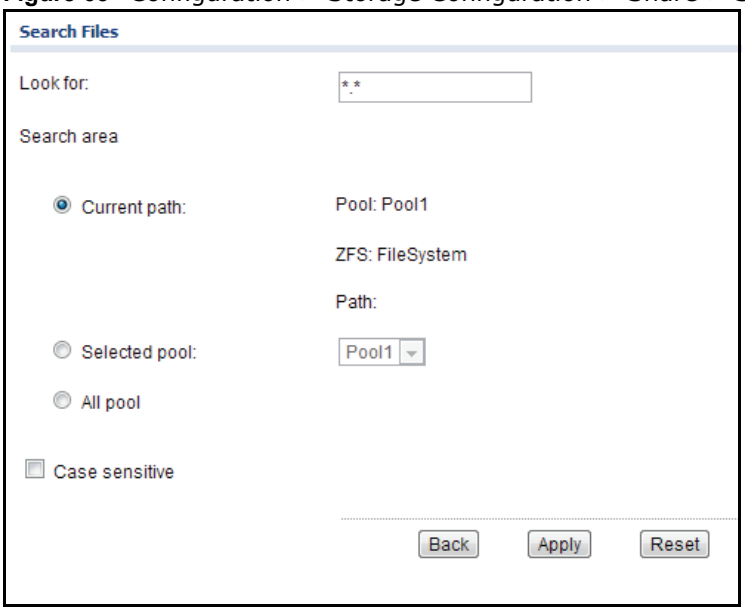
Table 46 Configuration > Sharing Configuration > Share > [File System] > Create Folder

LABELS	DESCRIPTION
Folder	
Pool	Displays the pool name.
ZFS	Display the ZFS volume name.
Path	Displays the folder path.
Folder Name	Enter a name for the new folder.
Enable Share Services	
Share Services	Click to select a service to enable for this folder: CIFS, NFS, AFP, FTP, and WebDAV.
Back	Click **Back** to go to the previous screen.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

21.2.3 The Explorer Search Files Screen

Click **Configuration** > **Storage Configuration** > **Share** > **Search Files** to display the following screen.

Figure 65 Configuration > Storage Configuration > Share > Search Files



The following table describes the labels on this screen.

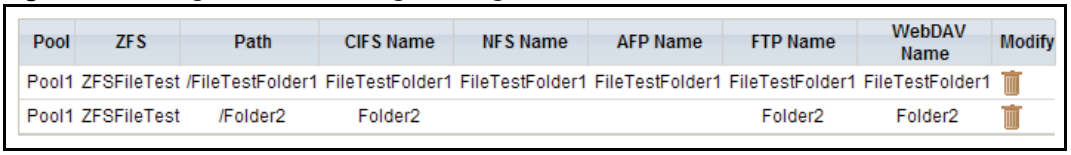
Table 47 Configuration > Storage Configuration > Share > Search Files

LABELS	DESCRIPTION
Search Files	
Look for	Enter the name of the file to search.
Search area	The search area includes the following methods: Current path, Selected pool, and All pool.
Current path	Select this option to search under the current file path.
Selected pool	Select this option to search under the selected storage pool.
All pool	Select this option to search under all storage pools.
Case Sensitive	Check this option to match search criteria based on upper and lower case characters.
Back	Click **Back** to go to the previous screen.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

21.2.4 Shares

The **Shares** function allows you to remove or view the status of current shares. Click **Configuration** > **Storage Configuration** > **Share** > **Shares** to display the following screen.

Figure 66 Configuration > Storage Configuration > Share > Shares



Pool	ZFS	Path	CIFS Name	NFS Name	AFP Name	FTP Name	WebDAV Name	Modify
Pool1	ZFSFileTest	/FileTestFolder1	FileTestFolder1	FileTestFolder1	FileTestFolder1	FileTestFolder1	FileTestFolder1	
Pool1	ZFSFileTest	/Folder2	Folder2			Folder2	Folder2	

This following table describes the labels on this screen.

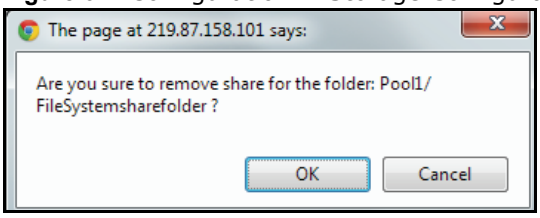
Table 48 Configuration > Storage Configuration > Share > Shares

COLUMN NAME	DESCRIPTION
Pool	Displays the name of the parent pool.
ZFS	Displays the file name for ZFS.
Path	Displays the file name's path in the pool
CIFS Name	Displays the file name for the CIFS service.
NFS Name	Displays the file name for the NFS service.
AFP Name	Displays the file name for the AFP service.
FTP Name	Displays the file name for the FTP service.
WebDAV Name	Displays the file name for the WebDAV service.
Modify	
Delete	Click **Delete** to delete the folder.

In the Modify column, the **Delete** option allows you to delete pre-existing shares.

Click **Delete** and confirm at the pop-up screen to complete the deletion.

Figure 67 Configuration > Storage Configuration > Share > Delete



22

LUN

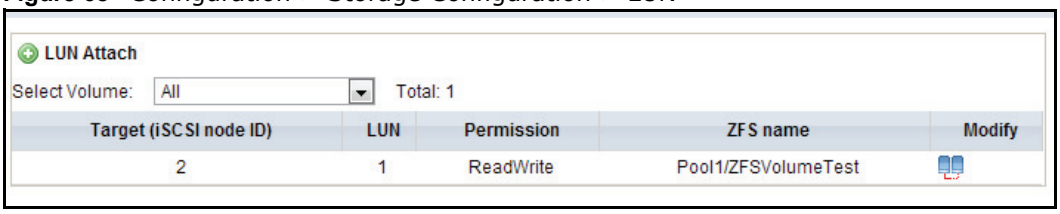
22.1 Overview

This chapter provides information for **LUN** in **Storage Configuration**.

22.2 LUN

The option offers functions to manage iSCSI volumes such as attaching/detaching s or viewing the status of each volume. Click **Configuration** > **Storage Configuration** > **LUN** to display the following screen.

Figure 68 Configuration > Storage Configuration > LUN



The following table describes the labels on this screen.

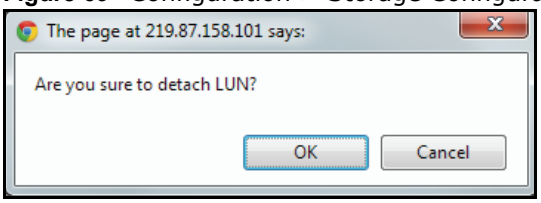
Table 49 Configuration > Storage Configuration > LUN

COLUMN NAME	DESCRIPTION
LUN Attach	Click to attach a logical unit number from a volume.
Select Volume	Click the drop-down menu to select from the available volume list.
Target (iSCSI node ID)	Displays the ID of the target node.
LUN	Displays the assigned LUN ID.
Permission	Displays the assigned permission: Read-only or Read-write.
ZFS name	Displays the name of the volume assigned to this LUN scheme.
Modify	
LUN Detach	Click to detach a logical unit number from a volume.

In the Modify column, the **LUN Detach** option allows you to a logical unit number from a volume.

Click **LUN Detach** and confirm at the pop-up screen to complete the detaching.

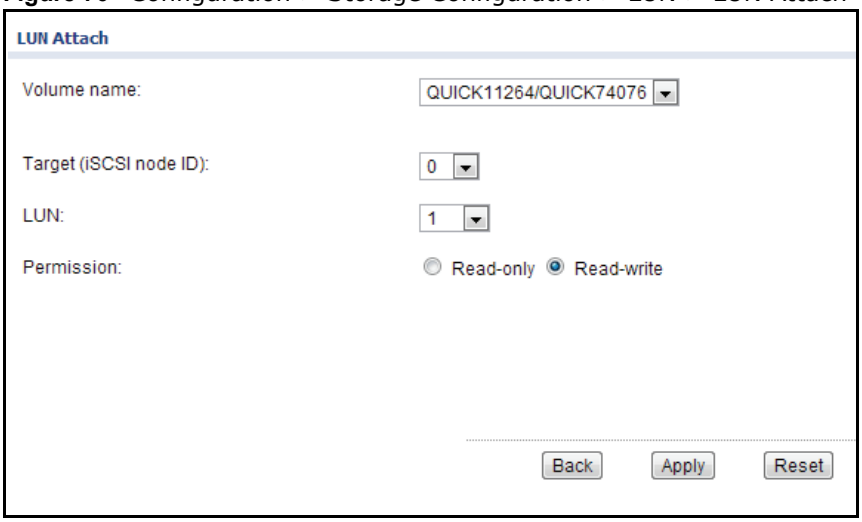
Figure 69 Configuration > Storage Configuration > LUN > LUN Detach



22.2.1 The LUN Attach Screen

Click **Configuration** > **Storage Configuration** > **LUN** > **LUN Attach** to display the following screen.

Figure 70 Configuration > Storage Configuration > LUN > LUN Attach



The following table describes the labels on this screen.

Table 50 Configuration > Storage Configuration > LUN > LUN Attach

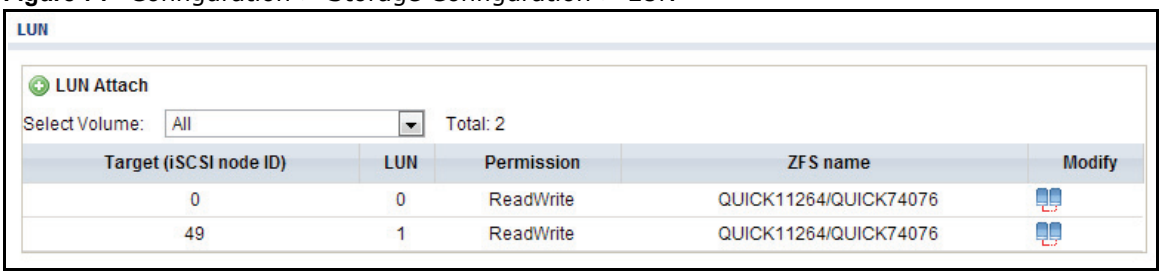
COLUMN NAME	DESCRIPTION
LUN Attach	
Volume name	Click the drop-down menu to select from the available volume list.
Target (iSCSI node ID)	Click the drop-down menu to select the target iSCSI node ID.
LUN	Click the drop-down menu to select the target LUN.
Permission	Select Read-only or Read-write to assign a permission setting for this attachment.
Back	Click **Back** to go to the previous screen.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

22.2.2 Attaching a LUN scheme

The following information can be used to attach a LUN scheme to a pre-existing volume.

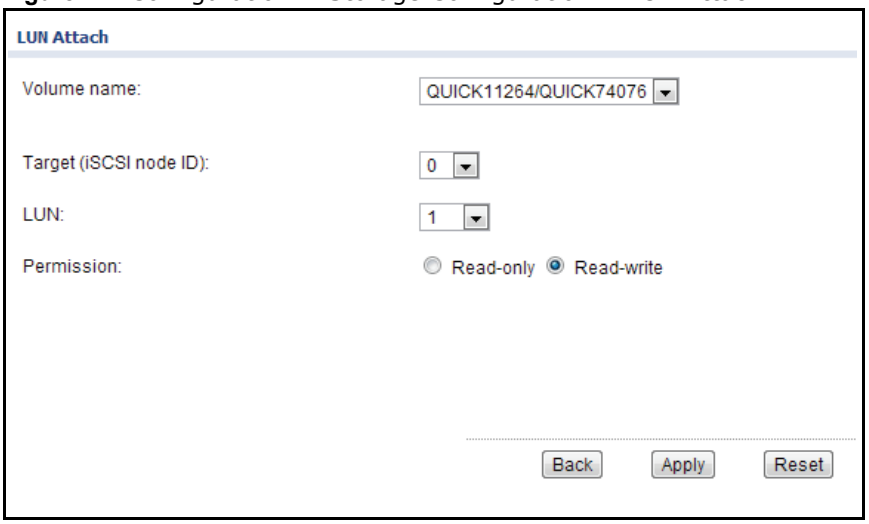
1 Click **Configuration** > **Storage Configuration** > **LUN** to display the following.

Figure 71 Configuration > Storage Configuration > LUN



2 Click **LUN Attach** to display the following screen.

Figure 72 Configuration > Storage Configuration > LUN Attach



3 In the **Volume name** field, click the drop-down menu and select a pre-existing volume.

4 In the **Target (iSCSI node ID)** field click the drop-down menu to select target number (0 - 63).

5 In the **LUN** field, select the LUN number (1 - 254) from the drop-down list.

6 In the **Permission** field, select a permission level to assign the new LUN scheme (Read-write: default).

7 Click **Apply** to save the new changes. Alternatively, click **Back** to return to the previous menu or **Reset** to discard the changes.

23

Snapshot

23.1 Overview

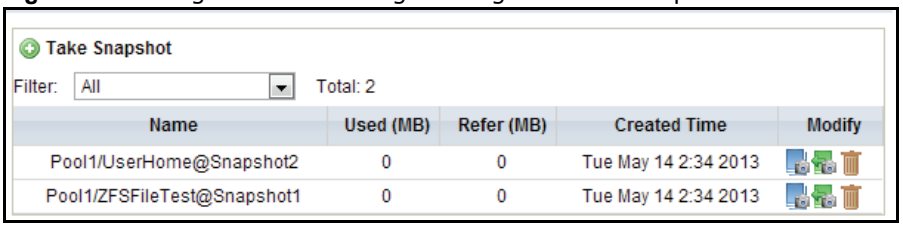
The chapter covers network and system storage management. It also discusses various web applications and services.

23.2 Snapshot

The **Snapshot** option offers functions to manage snapshot activities such as taking a snapshot, rolling back, cloning, deleting, or viewing the status of a snapshot.

The **Snapshot** option can only be applied to the whole file system or the volume. It cannot be applied to the specific shared folders. Click **Configuration** > **Storage Configuration** > **Snapshot** to display the following screen.

Figure 73 Configuration > Storage Configuration > Snapshot



The following table describes the labels on this screen.

Table 51 Configuration > Storage Configuration > Snapshot

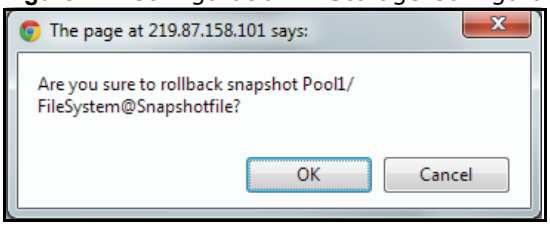
COLUMN NAME	DESCRIPTION
Take Snapshot	Click **Take Snapshot** to take a snapshot
Filter	Click the drop-down menu select a viewing filter for the snapshot listing.
Total	Displays the total number of listed snapshots.
Clone	Click **Clone** to clone the file system or the volume
Rollback	Click **Rollback** to rollback the snapshot of a file system or the snapshot of a volume.
Delete	Click **Delete** to delete the snapshot of a file system or the snapshot of a volume.
Name	Displays the name of the snapshot.
Used (MB)	Displays the amount of snapshot space being used.
Refer (GB)	Displays the referred capacity of the file system or volume.
Created Time	Displays the specified time in which the snapshot was created.

In the **Modify** column, **Rollback and Delete** are displayed.

To roll back a snapshot:

Click **Rollback** and confirm at the pop-up screen to complete the process.

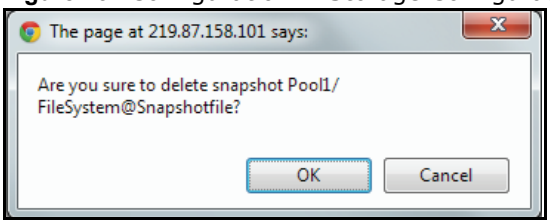
Figure 74 Configuration > Storage Configuration > Snapshot > Rollback



To **Delete** a snapshot:

Click **Delete** and confirm at the pop-up screen to complete the process.

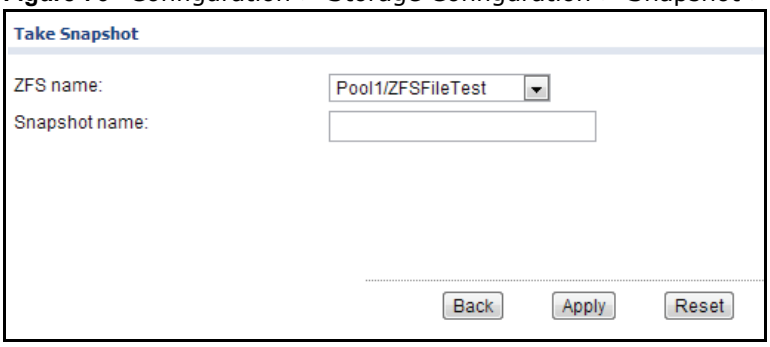
Figure 75 Configuration > Storage Configuration > Snapshot > Delete



23.2.1 The Snapshot Take Snapshot Screen

Click **Configuration** > **Storage Configuration** > **Snapshot** > **Take Snapshot** to display the following screen.

Figure 76 Configuration > Storage Configuration > Snapshot > Take Snapshot



The following table describes the labels on this screen.

Table 52 Configuration > Storage Configuration > Snapshot > Take Snapshot

COLUMN NAME	DESCRIPTION
Take Snapshot	
ZFS name	Click the drop-down menu to select the ZFS dataset.
Snapshot name	Enter the name of the snapshot.
Back	Click **Back** to go to the previous screen.

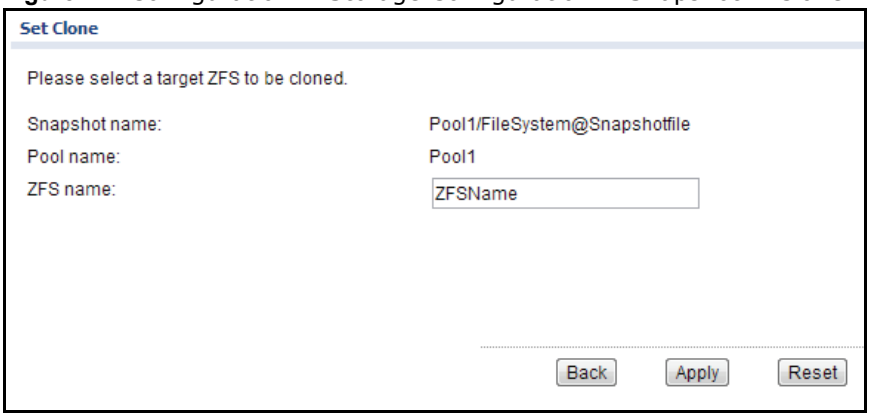
Table 52 Configuration > Storage Configuration > Snapshot > Take Snapshot

COLUMN NAME	DESCRIPTION
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

23.2.2 The Snapshot Clone Screen

Click **Configuration** > **Storage Configuration** > **Snapshot** > **Clone** to display the following screen.

Figure 77 Configuration > Storage Configuration > Snapshot > Clone



The following table describes the labels on this screen.

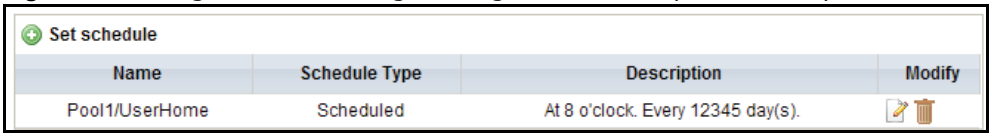
Table 53 Configuration > Storage Configuration > Snapshot > Clone

COLUMN NAME	DESCRIPTION
Set Clone	
Snapshot name	Displays the name of the snapshot.
Pool name	Displays the associated Pool for this selection.
ZFS name	Enter the name for the new snapshot.
Back	Click **Back** to go to the previous screen.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

23.3 Snapshot Schedule

You can schedule the snapshot service at set intervals. Click **Configuration** > **Storage Configuration** > **Snapshot** > **Snapshot Schedule** to display the following screen.

Figure 78 Configuration > Storage Configuration > Snapshot > Snapshot Schedule



The following table describes the labels on this screen.

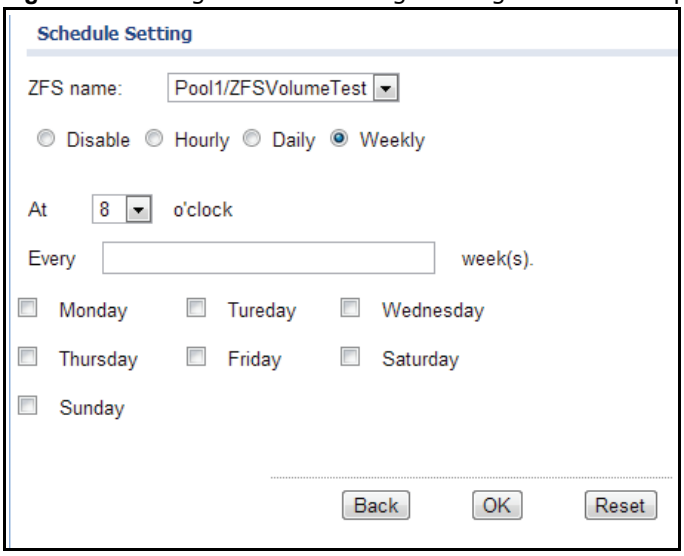
Table 54 Table Configuration > Storage Configuration > Snapshot Schedule

LABELS	DESCRIPTIONS
Snapshot Schedule	
Set Schedule	Click **Set Schedule** to define a new schedule.
Name	Displays the schedule ZFS name.
Schedule Type	Displays the status of the schedule: Disabled or scheduled.
Description	Displays a description of the schedule type.
Modify	
Edit	Click **Edit** to change the properties of the schedule.
Delete	Click **Delete** to delete the schedule.

23.3.1 The Set schedule Screen

Click **Configuration** > **Storage Configuration** > **Snapshot** > **Snapshot Schedule** > **Set schedule** to display the following screen.

Figure 79 Configuration > Storage Configuration > Snapshot > Snapshot Schedule > Set Schedule



The following table describes the labels on this screen.

Table 55 Configuration > Storage Configuration > Snapshot > Snapshot Schedule > Set Schedule

LABELS	DESCRIPTIONS
Schedule Setting	
ZFS name	Click the drop-down menu to select the ZFS dataset for this schedule.
Schedule Type	Select Disable, Hourly, Daily, or Weekly to define the snapshot period. Disable: do not schedule a snapshot. Hourly: Set the schedule on an hourly interval. Daily: Set the schedule on a daily interval. Weekly: Set the schedule on a weekly interval.

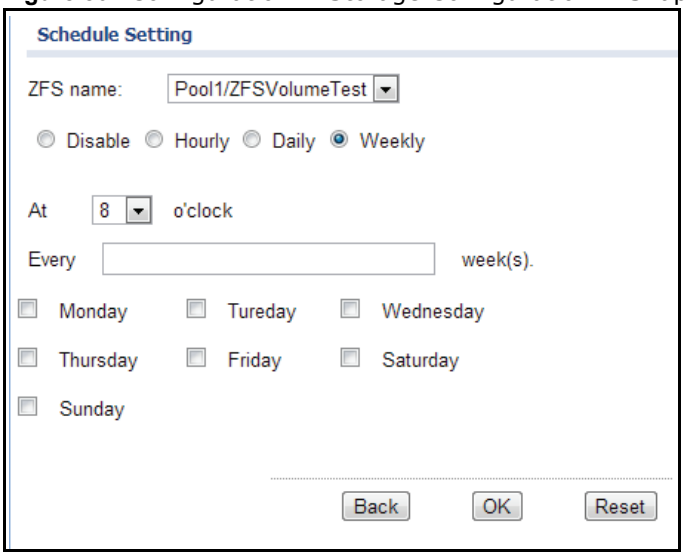
Table 55 Configuration > Storage Configuration > Snapshot > Snapshot Schedule > Set Schedule

LABELS	DESCRIPTIONS
At (N) o'clock	Click the drop-down menu to designate a snapshot time, whereas N designates a 24 hour period.
Every	Enter the weekly interval period (1 to 9).
Day	Select the day(s) to schedule the snapshot setting.
Back	Click **Back** to go to the previous screen.
OK	Click **OK** to confirm the changes.
Reset	Click **Reset** to discard the changes.

23.3.2 The Snapshot Schedule Edit Screen

Click **Configuration** > **Storage Configuration** > **Snapshot** > **Snapshot Schedule** > **Edit** to display the following screen.

Figure 80 Configuration > Storage Configuration > Snapshot > Snapshot Schedule > Edit



The following table describes the labels on this screen.

Table 56 Configuration > Storage Configuration > Snapshot > Snapshot Schedule > Edit

LABELS	DESCRIPTIONS
Schedule setting	
ZFS name	Click the drop-down menu to select the ZFS dataset for this schedule.
Schedule Type	Select Disable, Hourly, Daily, or Weekly to define the snapshot period. Disable: do not schedule a snapshot. Hourly: Set the schedule on an hourly interval. Daily: Set the schedule on a daily interval. Weekly: Set the schedule on a weekly interval.
At (N) o'clock	Click the drop-down menu to designate a snapshot time, whereas N designates a 24 hour period.
Every	Enter the weekly interval period (1 to 9).

Table 56 Configuration > Storage Configuration > Snapshot > Snapshot Schedule > Edit

LABELS	DESCRIPTIONS
Day	Select the day(s) to schedule the snapshot setting.
Back	Click **Back** to go to the previous screen.
OK	Click **OK** to confirm the changes.
Reset	Click **Reset** to discard the changes.

24

Directory Services

24.1 Overview

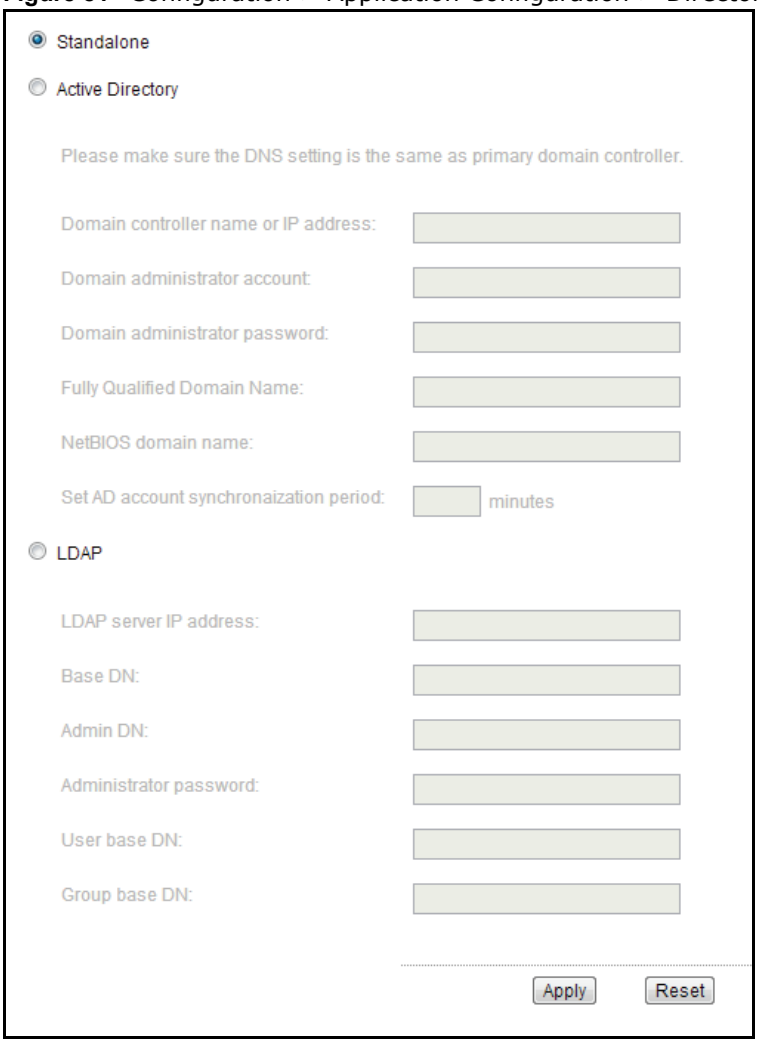
This chapter provides information for the directory services in Configuration.

24.2 Directory Services

The **Directory services** option offers three directory services. The default is **Standalone**, which supports local account only. The others are **Active Directory** for Windows and **LDAP** services.

Please note that only one directory service can be enabled at all time. You can not enable more than one directory service at a time. Switching directory service will result in losing Access Control List of all shares from the previous directory service. Click **Configuration** > **Application Configuration** > **Directory Services** to display the following screen.

Figure 81 Configuration > Application Configuration > Directory Services



The following table describes the labels on this screen.

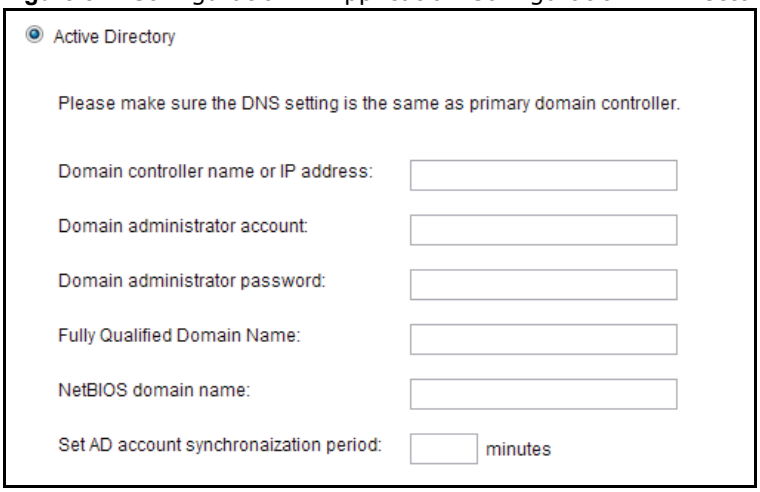
Table 57 Configuration > Application Configuration > Directory Services

LABELS	DESCRIPTION
Service Directory	
Standalone	Standalone support local user/group accounts only. (default setting)
Active Directory	The Active Directory service supports Windows Server 2003 and 2008 Active Directory. The maximum number of AD users and groups is 65536.
LDAP	The LDAP (Light-weighted Directory Access Protocol) service supports LDAP version3. The maximum number of LDAP users and groups is 65536.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to change the screen to the default settings.

24.2.1 The Directory Services Active Directory Screen

Click **Configuration** > **Application Configuration** > **Directory Services** > **Active Directory** to display the following screen.

Figure 82 Configuration > Application Configuration > Directory Services > Active Directory


Active Directory
Please make sure the DNS setting is the same as primary domain controller.
Domain controller name or IP address:
Domain administrator account:
Domain administrator password:
Fully Qualified Domain Name:
NetBIOS domain name:
Set AD account synchronaization period:
minutes

The following table describes the labels on this screen.

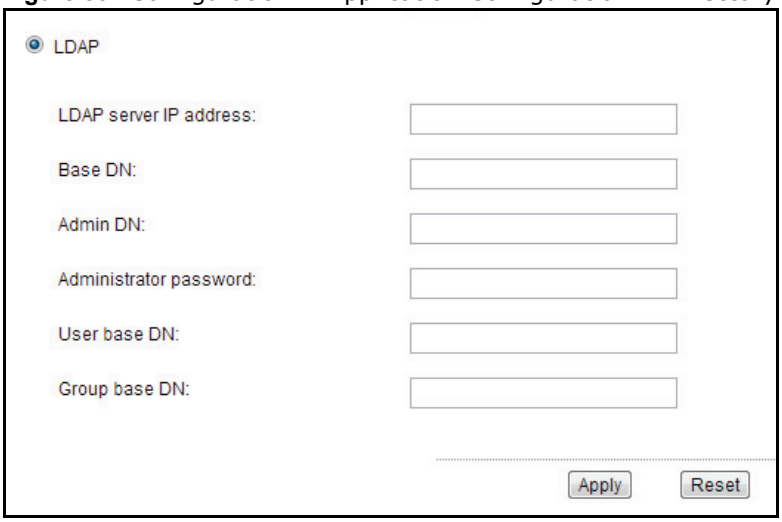
Table 58 Configuration > Application Configuration > Directory Services > Active Directory

LABELS	DESCRIPTION
Domain controller name or IP address	Enter the name of your Domain Controller or you can enter its IP address.
Domain administrator account	Enter your domain administrator account.
Domain administrator password	Enter your domain administrator password.
Fully Qualified Domain Name	Enter the fully qualified domain name.
NetBIOS domain name	Enter the NetBIOS domain name.
Set AD account synchronization period	Enter the number of minute(s).

24.2.2 The Directory Services LDAP Screen

Click **Configuration** > **Application Configuration** > **Directory Services** > **LDAP** to display the following screen.

Figure 83 Configuration > Application Configuration > Directory Services > LDAP



The following table describes the labels on this screen.

Table 59 Configuration > Application Configuration > Directory Services > LDAP

LABELS	DESCRIPTION
LDAP server IP address	Enter the IP address of your LDAP server.
Base DN	The base distinguished name (DN) indicates where in the LDAP directory you wish to load users and groups. In LDAP form, it is **cn=Users,dc=<your domain>**. Let's say your domain is **aaa.bbb.com**. The Base DN you should be put in as **cn=Users,dc=aaa,dc=bbb,dc=com**.
Admin DN	Admin DN: By default, the administrator DN is in the form of **cn=Administrator,dc=<your domain>**. For example, the Admin DN should be put in as **cn=Administrator,dc=aaa, dc=bbb,dc=com**.
Administrator password	Enter your administrator password
User base DN	Enter the user base DN.
Group base DN	Enter the group base DN.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

25

CIFS

25.1 Overview

The chapter provides information for the Common Internet File System (CIFS) in Configuration.

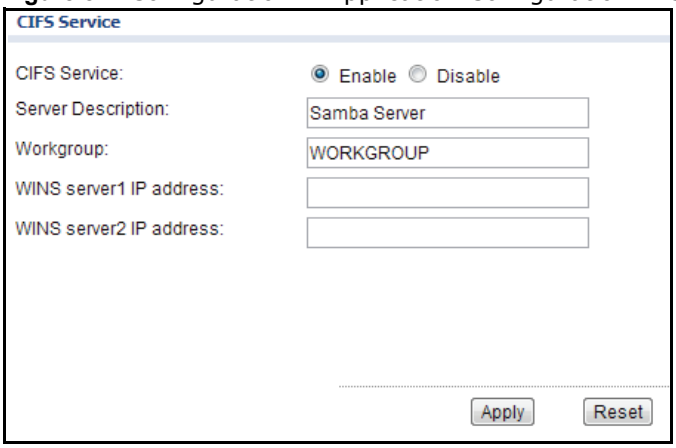
25.2 CIFS Service

The **CIFS** function can be used to setup CIFS services to support file services for Windows-based computers. UNS Series unified storage provides CIFS capabilities without the need for a Windows server in the network. Starting this service opens the following ports on the UNS Series unified storage system:

- TCP 139 (smbd)
- TCP 445 (smbd)
- UDP 137 (nmbd)
- UDP 138 (nmbd)

Click **Configuration** > **Application Configuration** > **CIFS** to display the following screen.

Figure 84 Configuration > Application Configuration > CIFS



The following table describes the labels on this screen.

Table 60 Configuration > Application Configuration > CIFS

LABELS	DESCRIPTION
CIFS Service	
CIFS Service	Select to enable or disable the service.
Server Description	Enter a description to identify this service.

Table 60 Configuration > Application Configuration > CIFS (continued)

LABELS	DESCRIPTION
Workgroup	Enter the name of the network workgroup for this service.
WINS server1 IP address	Enter the first WINS Server IP Address. If the field is left empty, the name resolution priority defaults to DNS only.
WINS server2 IP address	Enter the second WINS Server IP Address. If the field is left empty, the name resolution priority defaults to DNS only.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

26

NFS

26.1 Overview

The chapter provides information for the Network File System (NFS) in Configuration.

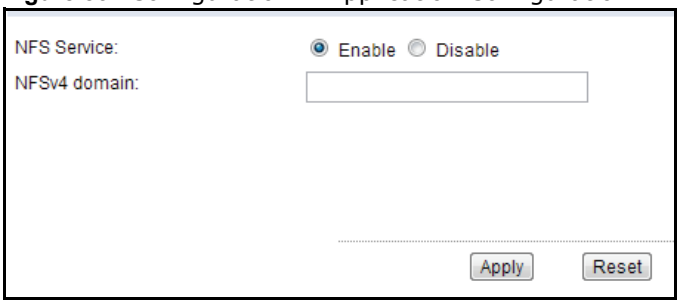
26.2 NFS Service

The **NFS** (Network File System) function can be used to setup NFS services for sharing files and directories on a network among Linux machines and Unix machines. Starting this service opens the following ports on the ZyXEL unified storage system:

- TCP 111 (rpcbind)
- TCP 2049 (nfsd)
- UDP 111 (rpcbind)
- Additionally, mountd and rpcbind will each be bound to any available UDP port.

Click **Configuration** > **Application Configuration** > **NFS** to display the following screen.

Figure 85 Configuration > Application Configuration > NFS



The following table describes the labels on this screen.

Table 61 Configuration > Application Configuration > NFS

LABELS	DESCRIPTION
NFS Service	
NFS Service	Select to enable or disable the service.
NFSv4 domain	Enter the NFSv4 domain name for use with ID mapping.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

27 AFP

27.1 Overview

The chapter provides information for the Apple Filing Protocol (AFP) in Configuration.

27.2 AFP Service

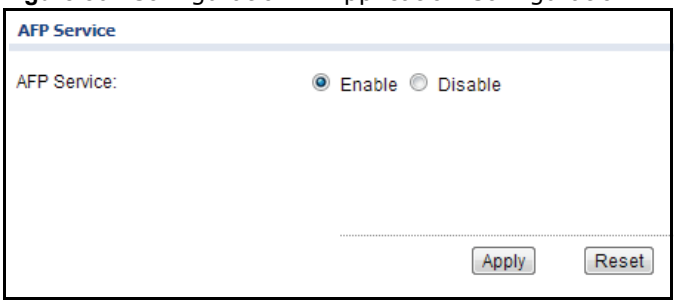
The AFP tab is used to setup AFP protocol. The AFP is a network protocol that offers file sharing services for Mac computers.

Starting this service opens the following ports on the ZyXEL unified storage system:

- TCP 548 (afpd)
- TCP 4799 (cnid_metadata)
- UDP 5353 and a random UDP port (avahi).

Click **Configuration** > **Application Configuration** > **AFP** to display the following screen.

Figure 86 Configuration > Application Configuration > AFP



The following table describes the labels on this screen.

Table 62 Configuration > Application Configuration > AFP

LABELS	DESCRIPTION
AFP Service	
AFP Service	Select to enable or disable the service.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

28

FTP

28.1 Overview

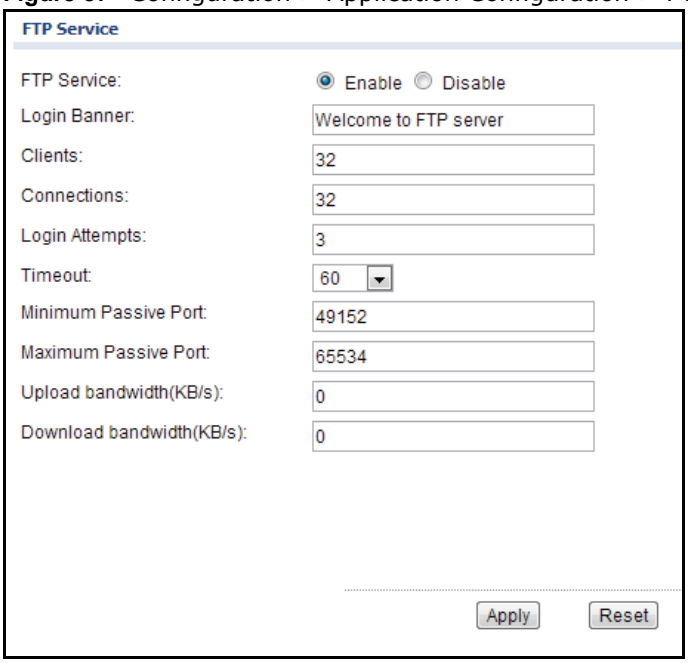
The chapter provides information for the File Transfer Protocol (FTP) in Configuration.

28.2 FTP Service

The FTP (File Transfer Protocol) tab is used to setup the FTP protocol. It allows you to configure the FTP server so that users can browse and download data using their web browser or FTP client software. FTP is easy to use and it is cross-platform. All major operating systems have FTP client functions.

Click **Configuration > Application Configuration > FTP** to display the following screen.

Figure 87 Configuration > Application Configuration > FTP



The following table describes the items on this screen.

Table 63 Configuration > Application Configuration > FTP

ITEM	DESCRIPTION
FTP Service	
FTP Service	Select to enable or disable the service.

Table 63 Configuration > Application Configuration > FTP (continued)

ITEM	DESCRIPTION
Login Banner	Enter a description for the login banner (default: Welcome to FTP server). Maximum number of characters is 256.
Clients	Enter a number to designate the maximum number of simultaneous clients (default: 32). Range is 1 - 4096.
Connections	Enter a number to designate the maximum number of connections per IP address (default: 32). Range is 1 - 32.
Login Attempts	Enter a number to designate the maximum number of login attempts before client is disconnected (default: 3) Range is 3 - 32.
Timeout	Click the drop-down menu to select a timeout period prior to client disconnection (default: 60 sec.). Values are 30, 60, 300, 600, 1800, 3600.
Minimum Passive Port	Enter a number to designate the minimum number of passive ports (default: 49152). The range is 1024 - 65535.
Maximum Passive port	Enter a number to designate the maximum number of passive ports (default: 65534). The range is 1024 - 65535.
Upload bandwidth(KB/s)	Enter the upload bandwidth limit (KB/s): default is 0 (no limit).
Download bandwidth(KB/s)	Enter the download bandwidth limit (KB/s): default is 0 (no limit).
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

29

WebDAV

29.1 Overview

The chapter provides information for the Web Distributed Authoring and Versioning (WebDAV) in Configuration.

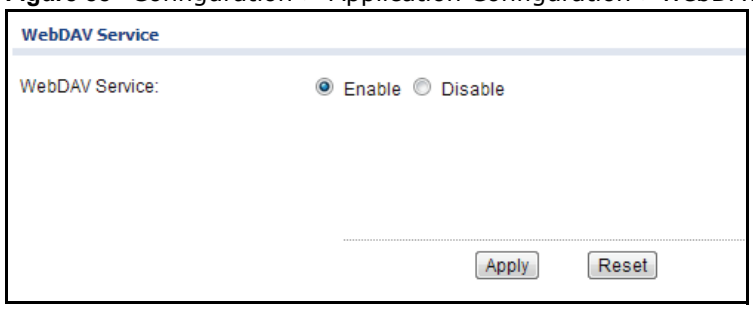
29.2 WebDAV Service

The WebDAV tab is used to setup WebDAV protocol. It is an extension of HTTP v1.1 protocol that allows users to manage files across different operating system platforms. Starting this service opens the following port on the ZyXEL unified storage system:

- TCP 80 (http)

Click **Configuration > Application Configuration >WebDAV** to display the following screen.

Figure 88 Configuration > Application Configuration >WebDAV



The following table describes the labels on this screen.

Table 64 Configuration > Application Configuration > WebDAV

LABELS	DESCRIPTION
WebDAV Service	
WebDAV Service	Select to enable or disable the service.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

30

iSCSI

30.1 Overview

The chapter provides information for the Internet SCSI (iSCSI) in Configuration.

30.2 iSCSI Configuration

The Internet SCSI tab is used to setup iSCSI entity name for block-based access. iSCSI is a protocol standard that allows the consolidation of storage data. iSCSI allows the system to act like a storage area network (SAN) over an existing Ethernet network. Specifically, it exports disk devices over an Ethernet network that iSCSI clients (called initiators) can attach to and mount to.

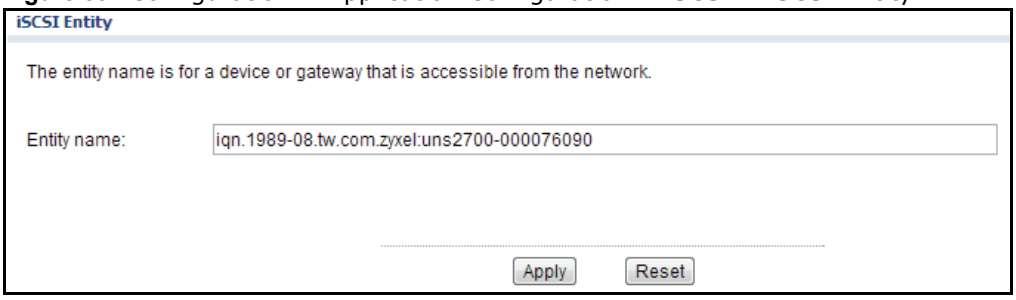
The Internet SCSI menu consists of the following tabs: **iSCSI Entity** and **iSCSI Node**.

30.3 The iSCSI Entity Screen

This tab can modify iSCSI entity name.

Click **Configuration** > **Application Configuration** > **iSCSI** > **iSCSI Entity** to display the following screen.

Figure 89 Configuration > Application Configuration > iSCSI > iSCSI Entity



The following table describes the items on this screen.

Table 65 Configuration > Application Configuration > iSCSI > iSCSI Entity

ITEM	DESCRIPTION
iSCSI Entity	
Entity name	Enter the iSCSI entity name.

Table 65 Configuration > Application Configuration > iSCSI > iSCSI Entity (continued)

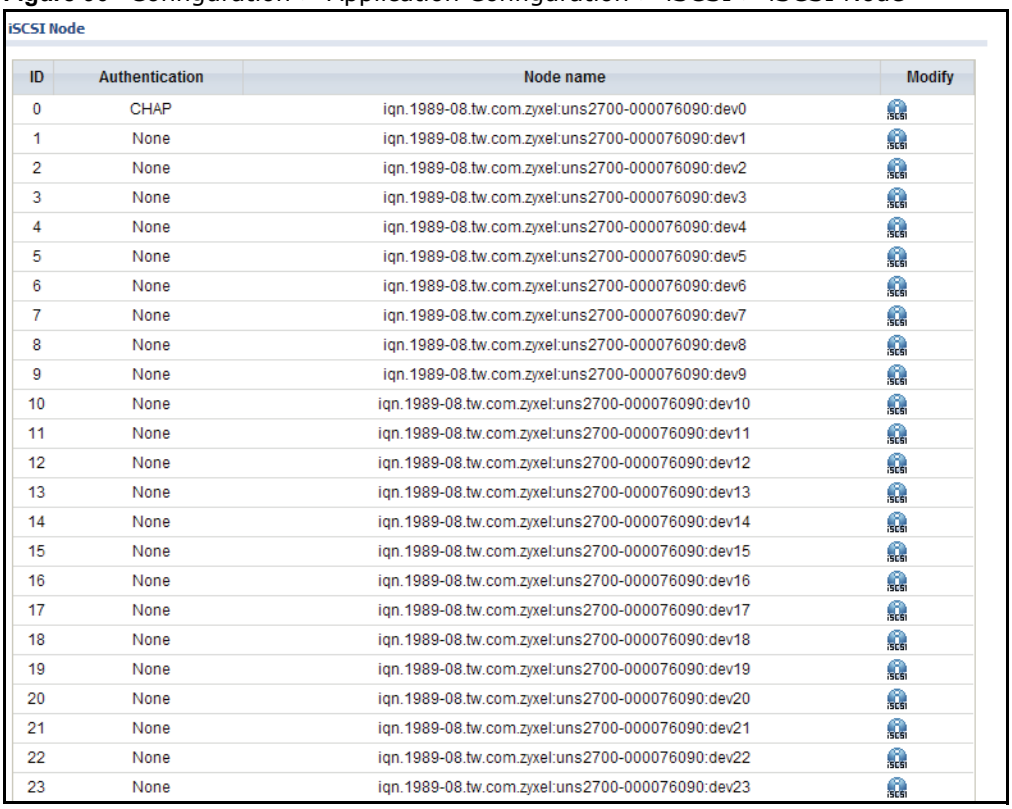
ITEM	DESCRIPTION
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

30.3.1 The iSCSI Node Screen

This tab can manage iSCSI node.

Click **Configuration** > **Application Configuration > iSCSI > iSCSI Node** to display the following screen.

Figure 90 Configuration > Application Configuration > iSCSI > iSCSI Node



The following table describes the items on this screen.

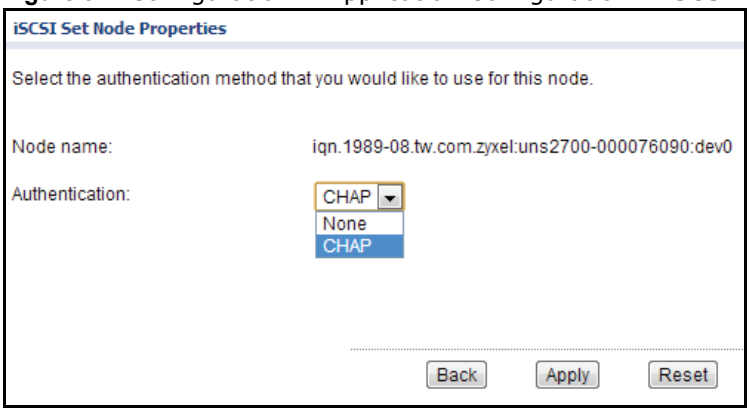
Table 66 Configuration > Application Configuration > iSCSI > iSCSI Node

LABEL	DESCRIPTION
iSCSI Mode	
ID	Displays the ID number of the node.
Authentication	Displays the authentication method assigned to the node.
Node name	Displays the name assigned to the node.
Modify	
Set properties	Click Set properties to setup the authentication method for this node.

30.3.2 The Set Properties Screen

Click **Configuration** > **Application Configuration** > **iSCSI** > **iSCSI Node** > **Set Properties** to display the following screen.

Figure 91 Configuration > Application Configuration > iSCSI > iSCSI Node > Set Properties



The following table describes the items on this screen.

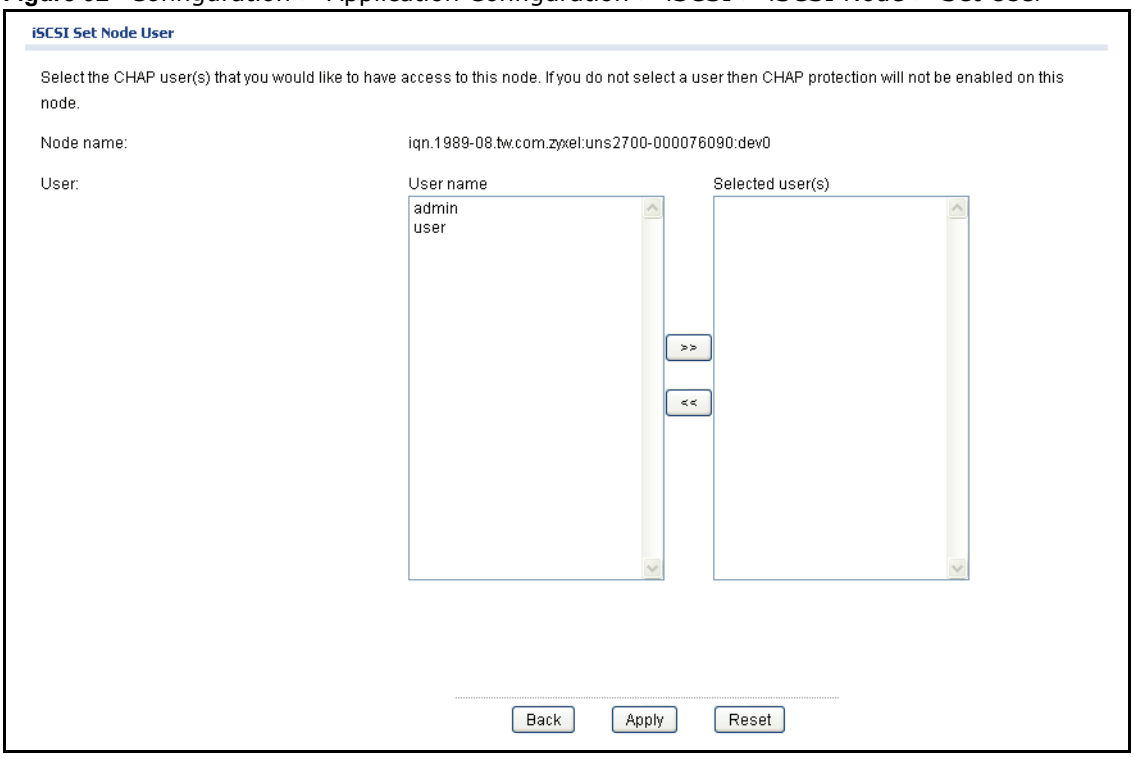
Table 67 Configuration > Application Configuration > iSCSI > iSCSI Node > Set Properties

LABEL	DESCRIPTION
Node Name	Displays the name of the iSCSI node.
Authentication	Select CHAP or None from the drop-down list. CHAP (Challenge Handshake Authentication Protocol) is a strong authentication method used in point-to-point for user login. CHAP enables the transmission of username and password in an encrypted form for added security protection.
Back	Click **Back** to go to the previous screen.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

30.3.3 The Set User Screen

Click **Configuration** > **Application Configuration > iSCSI > iSCSI Node > Set User** to display the following screen.

Figure 92 Configuration > Application Configuration > iSCSI > iSCSI Node > Set User



The following table describes the items on this screen.

Table 68 Configuration > Application Configuration > iSCSI > iSCSI Node > Set User

LABEL	DESCRIPTION
Node Name	Displays the name of the iSCSI node.
User	Select CHAP user(s) to be used from the **User Name** list and move them to the **Selected user(s)** list. There can be more than one selected user but there must be at least one for CHAP to work.
Back	Click **Back** to go to the previous screen.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to change the screen to the default settings.

31

Backup

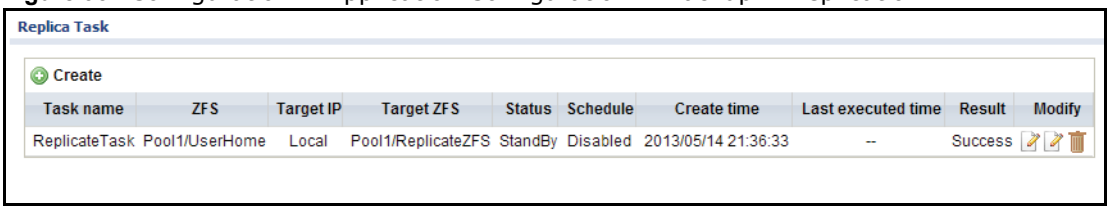
31.1 Overview

The chapter provides information for **Backup** in **Application Configuration**. The **Backup** option offers functions to set up the backup services. Currently, the Amazon S3 and Replication services are supported.

31.2 Replication

The **Replication** tab is used to setup the replication service. It supports local cloning and remote replication to other [Company Name] unified storage arrays. There is no limit creation of local cloning and remote replication tasks. If you experience slow system performance, please reduce the replication tasks. The same replication source cannot coexist in different tasks. The max task number is limited to 16. Click **Configuration** > **Application Configuration** > **Backup** > **Replication** to display the following screen.

Figure 93 Configuration > Application Configuration > Backup > Replication



The following table describes the labels on this screen.

Table 69 Configuration > Application Configuration > Backup > Replication

LABELS	DESCRIPTION
Replica Task	
Create	Click **Create** button to add a replication task
Task name	Displays the name of the task.
ZFS	Displays the ZFS source.
Target IP	Displays the IP address of the target device.
Target ZFS	Displays the ZFS of the target device.
Status	Displays the current status of replication.
Schedule	Displays the schedule of a task.
Create time	Displays the time of a created task.
Last executed time	Displays the time of the last executed period for this task.
Result	Displays the results of the replication task: Success

Table 69 Configuration > Application Configuration > Backup > Replication (continued)

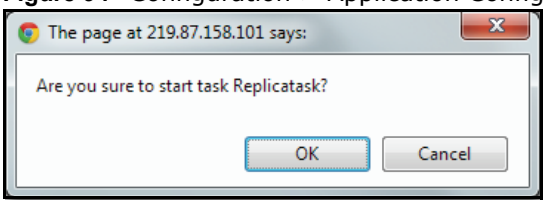
LABELS	DESCRIPTION
Modify	
Start	Click **Start** icon to start a task.
Schedule	Click **Schedule** to schedule a task.
Delete	Click **Delete** icon to delete a task.

In the Modify column, the **Start** and **Delete** options display.

To start a scheduled replication:

Click **Start** and confirm at the pop-up screen to start the replication process.

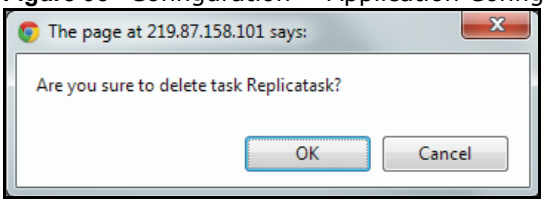
Figure 94 Configuration > Application Configuration > Backup > Start



To start delete a pre-existing replication:

Click **Delete** and confirm at the pop-up screen to delete.

Figure 95 Configuration > Application Configuration > Backup > Delete

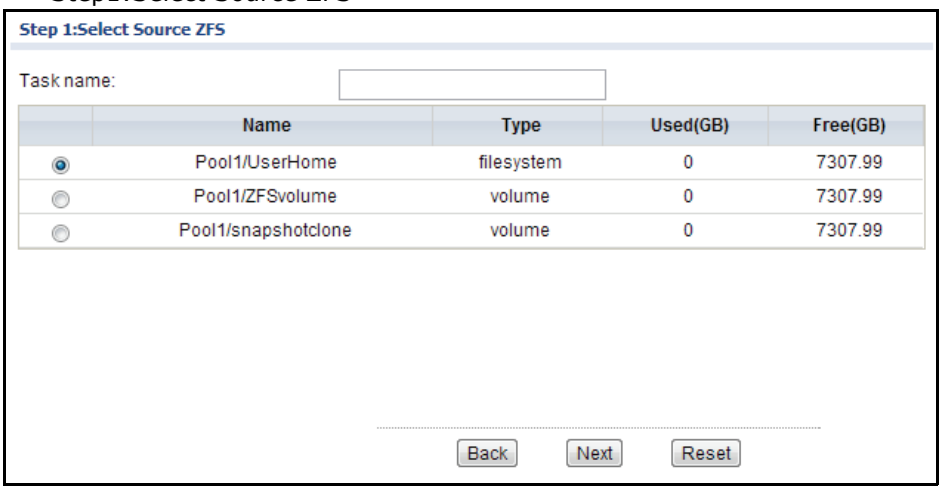


31.2.1 The Replication Create Screen

The following steps are a guideline for the creation of a replication task.

Click **Configuration** > **Application Configuration** > **Backup** > **Replication > Create** to display the following screen.

Figure 96 Configuration > Application Configuration > Backup > Replication > Create > Step1:Select Source ZFS

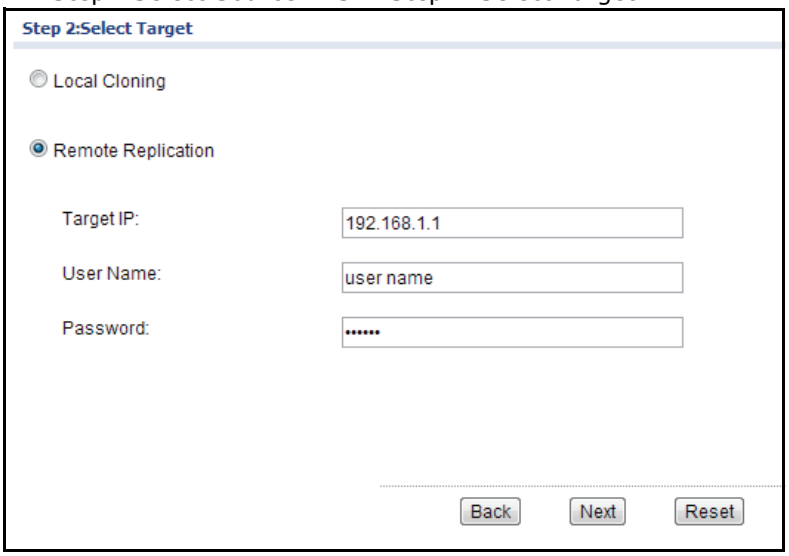


1 Enter the **Task name**, and select a file system or volume to replicate.

2 Click **Next** to continue.

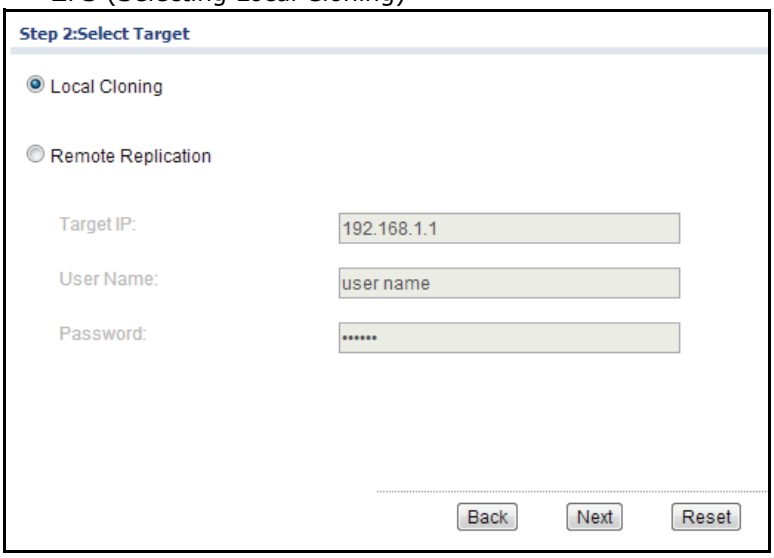
The Select Target screen displays.

Figure 97 Configuration > Application Configuration > Backup > Replication > Create > Step1:Select Source ZFS > Step 2:Select Target



3 Select **Local cloning** and proceed to step 7.

Figure 98 Configuration > Application Configuration > Backup > Replication > Create > Step 3 Select Target ZFS > Step1:Select Source ZFS > Step 2 Select Target > Step 3:Select Target ZFS (Selecting Local Cloning)



4 If the task is to target a remote device, select **Remote replication**

5 In the target IP field, type in the IP address of the remote device.

6 In the username and password fields, enter the user name and password of a profile with access privilege for the remote device.

7 Click **Next** to continue.

The Select Target ZFS screen displays.

Figure 99 Configuration > Application Configuration > Backup > Replication > Create > Step 3 Select Target ZFS > Step1:Select Source ZFS > Step 2 Select Target > Step 3:Select Target ZFS

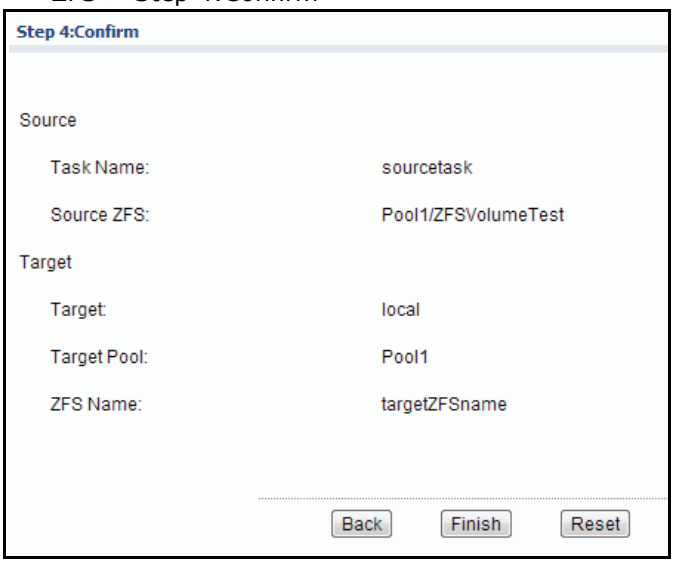
8 Click the drop-down menu and select the target pool.

9 In the ZFS Name field, enter a name for the selected target.

10 Click **Next** to continue.

The Confirm page displays

Figure 100 Configuration > Application Configuration > Backup > Replication > Create > Step 3 Select Target ZFS > Step1:Select Source ZFS > Step 2 Select Target > Step 3:Select Target ZFS > Step 4:Confirm



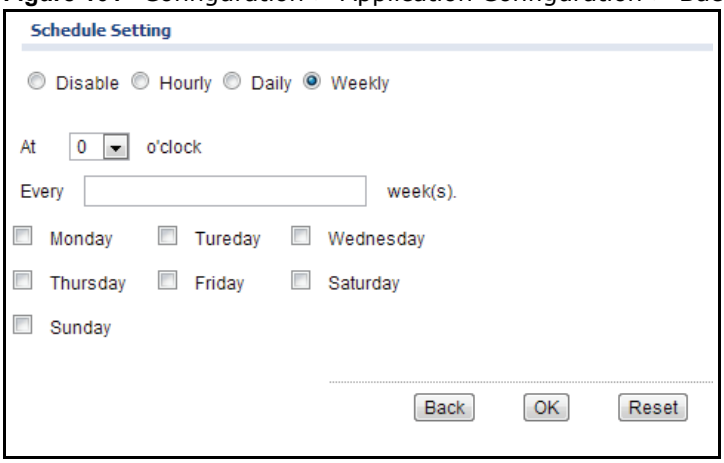
11 In the Confirm screen, review the information and click **Finish** to create the task. Alternatively, click **Back** to return to the previous screen or **Reset** to discard the changes.

After the task is created, you can schedule the implementation.

31.2.2 The Replication Schedule Screen

Click **Configuration** > **Application Configuration** > **Backup** > **Replication > Schedule** to display the following screen.

Figure 101 Configuration > Application Configuration > Backup > Replication > Schedule



The following table describes the labels on this screen.

Table 70 Configuration > Application Configuration > Backup > Replication > Schedule

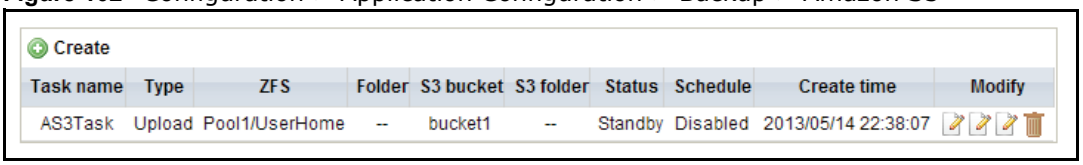
LABELS	DESCRIPTION
Schedule setting	
Hourly	
Every	Click the drop-down menu to set a schedule on an hourly interval.
Daily	
At o'clock	Click the drop-down menu to set a schedule on a specific 24 hour period.
Every	Enter a variable (x) to initiate the schedule every X day(s).
Weekly	
At o'clock	Click the drop-down menu to set a schedule on a specific 24 hour period.
Every	Enter a variable (x) to initiate the schedule every X week(s).
Days	Select the days to initiate the schedule.
Back	Click **Back** to return to the previous screen.
OK	Click **OK** to save the changes.
Reset	Click **Reset** to discard the changes.

31.3 Amazon S3

The **Amazon S3** tab is used to setup a backup task to the Amazon S3 service. Before using the service, you must have an Amazon S3 account first.

There is no limit to the number Amazon S3 tasks on your device. If you experience slow system performance, reduce the number of Amazon S3 tasks. Click **Configuration** > **Application Configuration** > **Backup** > **Amazon S3** to display the following screen.

Figure 102 Configuration > Application Configuration > Backup > Amazon S3



The following table describes the labels on this screen.

Table 71 Configuration > Application Configuration > Backup > Amazon S3

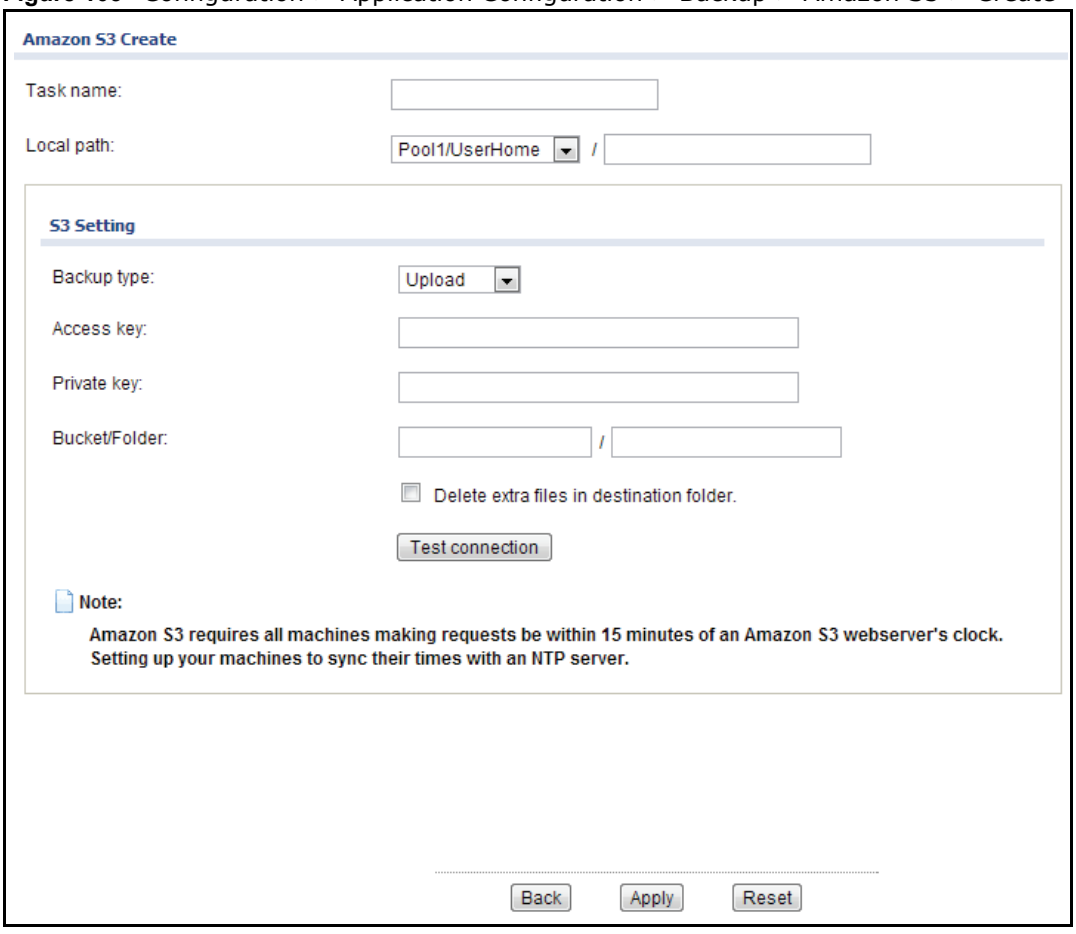
LABELS	DESCRIPTION
Amazon S3 Task	
Create	Click **Create** button to add a backup task to Amazon S3 service.
Task name	Displays the name of a task.
Type	Displays the type of backup task: upload or download
ZFS	Displays the local ZFS name.
Folder	Displays the name of the local folder name.
S3 bucket	Displays the name of the Amazon S3 bucket.
S3 folder	Displays the Amazon S3 target folder.
Status	Displays the current status of a task.

LABELS	DESCRIPTION
Schedule	Displays the schedule status of the task: enabled or disabled.
Create time	Displays the time of a created task.
Modify	
Start	Click **Start** to start a task.
Schedule	Click **Schedule** to schedule a task.
Edit	Click **Edit** to change the task properties.
Delete	Click **Delete** to delete a task.

31.3.1 Amazon S3 Create Screen

Click **Configuration** > **Application Configuration** > **Backup** > **Amazon S3** > **Create** to display the following screen.

Figure 103 Configuration > Application Configuration > Backup > Amazon S3 > Create



The following table describes the labels on this screen.

Table 72 Configuration > Application Configuration > Backup > Amazon S3 > Create

LABELS	DESCRIPTION
Amazon S3 Create	
Task name	Enter the name of the task.
Local path	Click the drop-down menu to select a local path. In the blank field, enter the name of a subdirectory.
S3 Setting	
Backup type	Click the drop-down menu to select the type of backup to create: upload or download.
Access key	Enter the access key for the S3 account.
Private key	Enter the user assigned private key for a registered account.
Bucket/Folder	Enter the name of the object (bucket) associated with the account (private key)
Delete extra files in destination folder	Select this option to delete any extra files in the destination folder.
Test connection	Click **Test connection** to attempt to connect to the listed account as defined in the S3 Settings.
Back	Click **Back** to return to the previous screen.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

32

AntiVirus

32.1 Overview

The chapter covers network and system storage management. It also discusses various web applications and services.

32.2 AntiVirus

The **AntiVirus** option is used for accessing the **AntiVirus Service**, **AntiVirus Scan Filter**, **AntiVirus Task**, **AntiVirus Update** and **AntiVirus Report** option tabs.

32.2.1 AntiVirus Services

Enable or disable antivirus services on this tab. Click **Configuration** > **Application Configuration** > **Antivirus** > **Antivirus Service** to display the following screen.

Figure 104 Configuration > Application Configuration > Antivirus > Antivirus Service

The following table describes the labels on this screen.

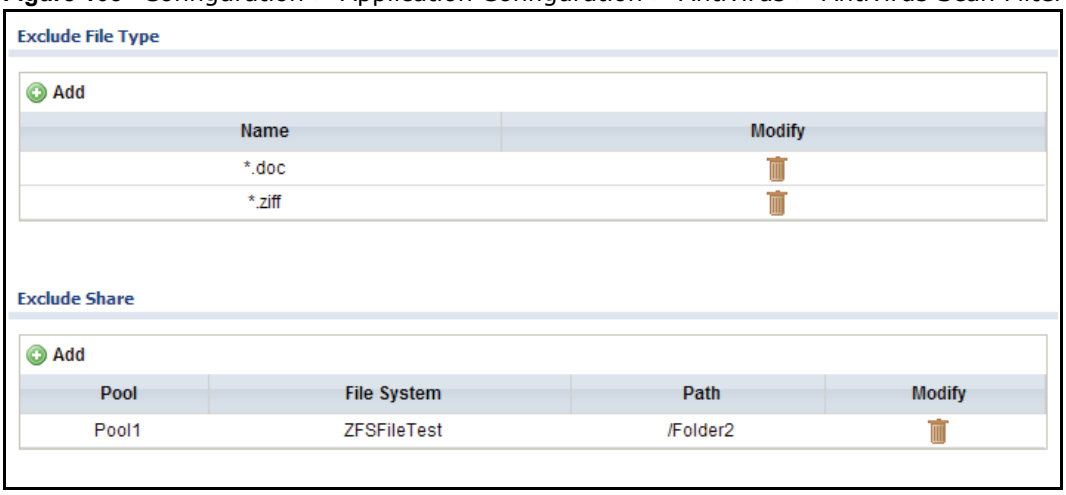
Table 73 Configuration > Application Configuration > Antivirus > Antivirus Service

LABELS	DESCRIPTION
AntiVirus Service	
AntiVirus Service	Select enable or disable the service.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

32.2.2 AntiVirus Scan Filter

This screen allows you to manage the files that will be excluded from a virus scan. Click **Configuration** > **Application Configuration** > **Antivirus** > **Antivirus Scan Filter** to display the following screen.

Figure 105 Configuration > Application Configuration > Antivirus > Antivirus Scan Filter



The following table describes the labels on this screen.

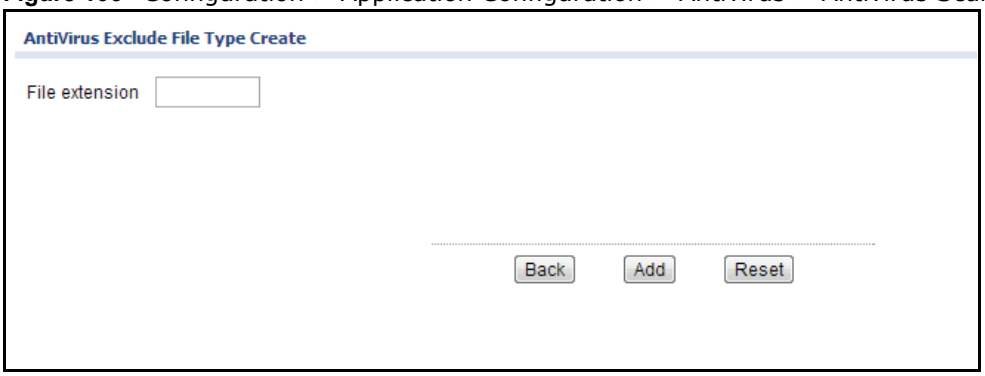
Table 74 Table Configuration > Application Configuration > Antivirus > Antivirus Scan Filter

LABELS	DESCRIPTION
Exclude file type	
Add	Click **Add** to exclude file types from the scan process.
Name	Displays the file extension name to excluded from the scan process.
Modify	
Delete	Click **Delete** to delete the list entry.
Exclude share	
Add	Click **Add** to exclude shares from the scan process.
Pool	Displays the Pool name for the excluded entry.
File System	Displays the file system name for the excluded entry.
Path	Displays the pool path for the excluded entry.
Modify	
Delete	Click **Delete** to delete the list entry.

32.2.2.1 The Exclude File Type Add Screen

Click **Configuration** > **Application Configuration** > **Antivirus** > **Antivirus Scan Filter** > **Add** to display the following screen.

Figure 106 Configuration > Application Configuration > Antivirus > Antivirus Scan Filter > Add



The following table describes the labels on this screen.

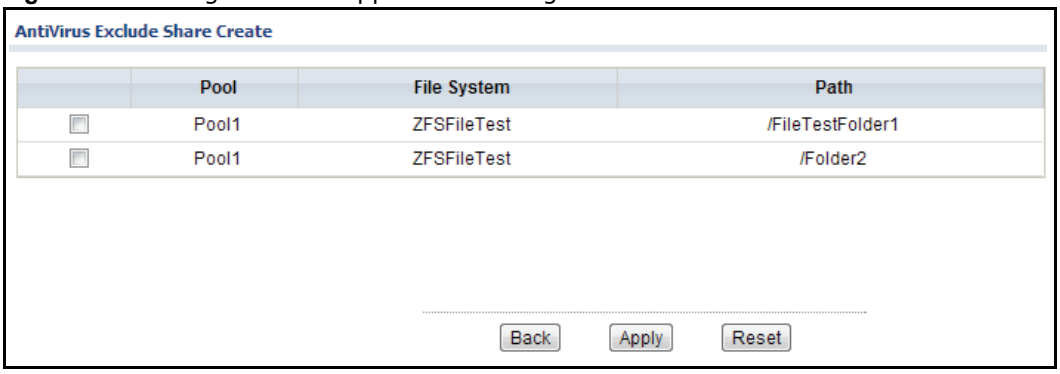
Table 75 Table Configuration > Application Configuration > Antivirus > Antivirus Scan Filter > Add

LABELS	DESCRIPTION
AntiVirus Exclude File Type Create	
File extension	Enter the file extension to exclude from the scan process.
Back	Click **Back** to go to the previous screen.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

32.2.2.2 The Exclude Share Add Screen

Click **Configuration** > **Application Configuration** > **Antivirus** > **Antivirus Scan Filter** > **Add** to display the following screen.

Figure 107 Configuration > Application Configuration > Antivirus > Antivirus Scan Filter > Add



The following table describes the labels on this screen.

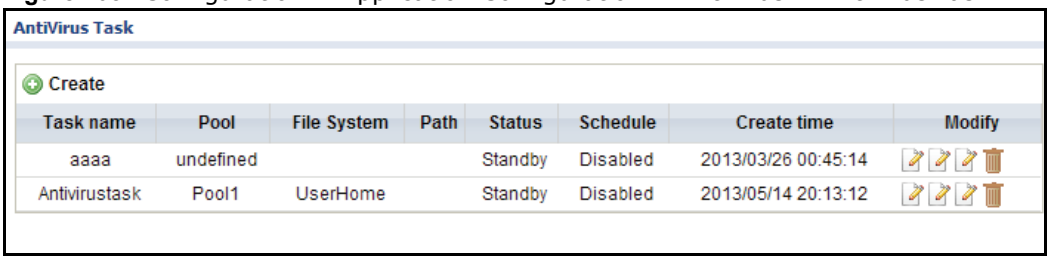
Table 76 Table Configuration > Application Configuration > Antivirus > Antivirus Scan Filter > Add

LABELS	DESCRIPTION
AntiVirus Exclude Share Create	
Pool	Click the Pool to exclude from an antivirus scan.
Back	Click **Back** to go to the previous screen.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

32.2.3 AntiVirus Task

This screen allows you to manage the antivirus tasks. Click **Configuration** > **Application Configuration** > **Antivirus** > **Antivirus Task** to display the following screen.

Figure 108 Configuration > Application Configuration > Antivirus > Antivirus Task



The following table describes the labels on this screen.

Table 77 Configuration > Application Configuration > Antivirus > Antivirus Task

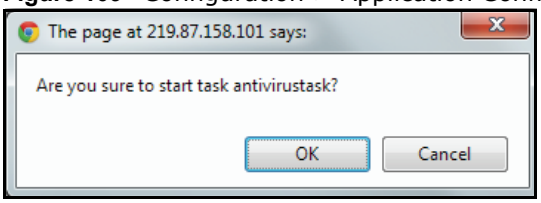
LABELS	DESCRIPTION
AntiVirus Task	
Create	Click **Create** to add a virus scan task.
Task name	Displays the defined name for the task.
Pool	Displays the target Pool for the task.
File System	Displays the target file system for the task.
Path	Displays the path of the file system.
Status	Displays the status of the task schedule: Disabled/enbled.
Create time	Displays the original creation time stamp of the task.
Modify	
Start	Click **Start** to initiate a task.
Stop	Click **Stop** to halt an ongoing task.
Schedule	Click **Schedule** to set a schedule for a pre-defined task.
Delete	Click **Delete** to delete a virus scan task.

In the Modify column, the **Start** and **Stop** options allows you to manually start a schedule.

To **Start** a schedule:

Click **Start** and confirm at the pop-up screen to start the pre-defined schedule.

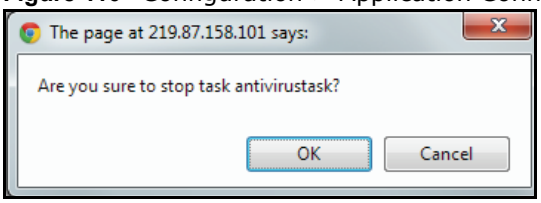
Figure 109 Configuration > Application Configuration > Antivirus > Antivirus Task > Stop



To **Stop** a schedule:

Click **Stop** and confirm at the pop-up screen to stop the pre-defined schedule.

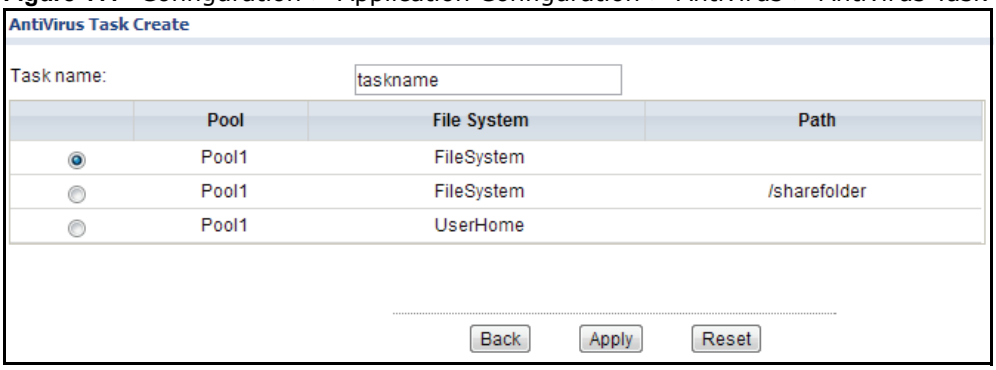
Figure 110 Configuration > Application Configuration > Antivirus > Antivirus Task > Start



32.2.3.1 The Antivirus Task Create Screen

Click **Configuration** > **Application Configuration** > **Antivirus** > **Antivirus Task > Create** to display the following screen.

Figure 111 Configuration > Application Configuration > Antivirus > Antivirus Task > Create



The following table describes the labels on this screen.

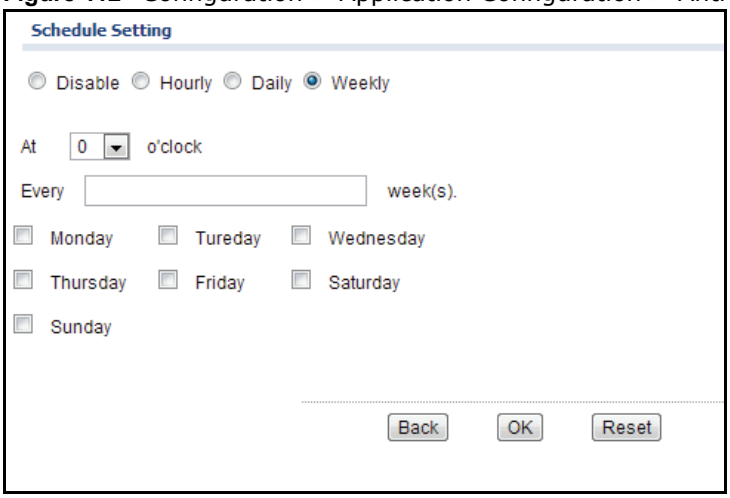
Table 78 Table Configuration > Application Configuration > Antivirus > Antivirus Task > Create

LABELS	DESCRIPTION
AntiVirus Task Create	
Task name	Enter the name of the task.
Pool	Displays the Pool location of the selection.
File System	Displays the File System of the selection.
Path	Displays the Path of the selection.
Back	Click **Back** to go to the previous screen.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

32.2.3.2 The Antivirus Task Schedule Screen

Click **Configuration** > **Application Configuration** > **Antivirus** > **Antivirus Task > Schedule** to display the following screen.

Figure 112 Configuration > Application Configuration > Antivirus > Antivirus Task > Schedule



The following table describes the labels on this screen.

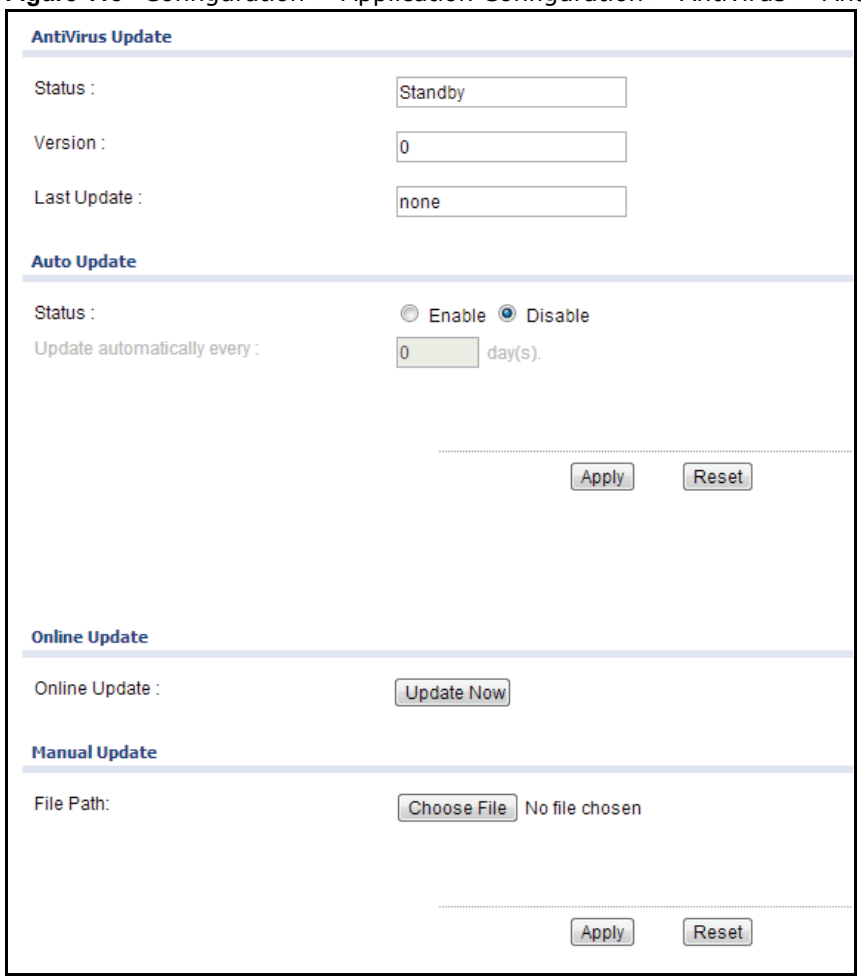
Table 79 Configuration > Application Configuration > Antivirus > Antivirus Task > Schedule

LABELS	DESCRIPTION
Schedule Setting	
Hourly	
Every	Click the drop-down menu to set a schedule on an hourly interval.
Daily	
At o'clock	Click the drop-down menu to set a schedule on a specific 24 hour period.
Every	Enter a variable (x) to initiate the schedule every X day(s).
Weekly	
At o'clock	Click the drop-down menu to set a schedule on a specific 24 hour period.
Every	Enter a variable (x) to initiate the schedule every X week(s).
Days	Select the days to initiate the schedule.
Back	Click **Back** to return to the previous screen.
OK	Click **OK** to save the changes.
Reset	Click **Reset** to discard the changes.

32.2.3.3 AntiVirus Update

This screen allows you to manage the updates of antivirus pattern files. Click **Configuration** > **Application Configuration** > **Antivirus** > **Antivirus Update** to display the following screen.

Figure 113 Configuration > Application Configuration > Antivirus > Antivirus Update



The following table describes the labels on this screen.

Table 80 Table Configuration > Application Configuration > Antivirus > Antivirus Update

LABELS	DESCRIPTION
AntiVirus Update	
Status	Displays the status of antivirus software.
Version	Displays the current antivirus version.
Last Update	Displays the date entry for the current antivirus version.
Auto Update	
Status	Select Enable to configure the Auto Update function.
Update automatically every	Enter the number to set the interval period.
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.
Online Update	
Online Update	Click **Update Now** to obtain the latest online update.
Manual Update	
File Path	Click **Choose File** to manually select a local file for updating.

Table 80 Table Configuration > Application Configuration > Antivirus > Antivirus Update

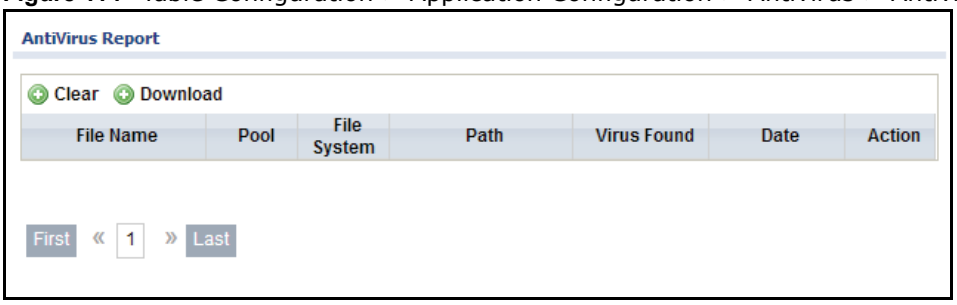
LABELS	DESCRIPTION
Apply	Click **Apply** to save the changes.
Reset	Click **Reset** to discard the changes.

Note: For Linux users using the manual update function, go to the McAfee official website and follow the provided instructions to obtain the latest virus library file (.DAT).

32.2.3.4 AntiVirus Report

Click **Configuration** > **Application Configuration** > **Antivirus** > **Antivirus Report** to display the following screen.

Figure 114 Table Configuration > Application Configuration > Antivirus > Antivirus Report



The following table describes the labels on this screen.

Table 81 Table Configuration > Application Configuration > Antivirus > Antivirus Report

LABELS	DESCRIPTION
AntiVirus Report	
Clear	Click **Clear** to clear the antivirus report contents.
Download	Click **Download** to export the Antivirus log report.
File Name	Displays the name of the affected file.
Pool	Displays the name of the affected Pool.
File System	Displays the name of the affected File System.
Path	Displays the local path of the infected dataset.
Virus Found	Displays the virus type found.
Date	Displays the date of the report.
Action	Select a specific action to apply when a virus file is detected.
First	Click **First** to scroll to the first page of the report.
Last	Click **Last** to scroll to the last page of the report.

33

Download

33.1 Overview

This chapter provides information for Download in Maintenance.

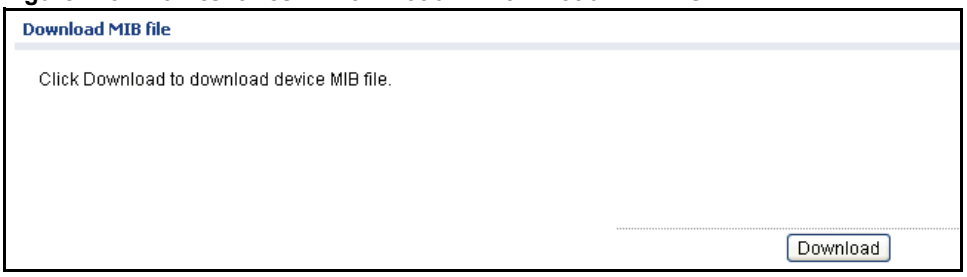
33.2 Download

The **Download** option provides two services: **Download MIB file** and **Download system information**.

33.2.1 Download MIB File

Click **Maintenance** > **Download** > **Download MIB file** to display the following screen.

Figure 115 Maintenance > Download > Download MIB file



The following table describes the labels on this screen.

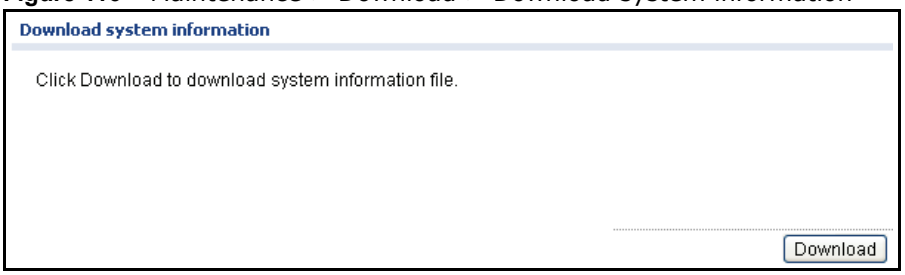
Table 82 Table Maintenance > Download > Download MIB file

LABEL	DESCRIPTION
Download MIB file	
Download	Click **Download** to download the device's MIB file.

33.2.2 Download System Information

The **Download system information** downloads a compressed file to your local drive. It contains event logs, debug information, and system configuration data. Click **Maintenance** > **Download** > **Download system information** to display the following screen.

Figure 116 Maintenance > Download > Download system information



The following table describes the labels on this screen.

Table 83 Maintenance > Download > Download system information

LABEL	DESCRIPTION
Download system information	
Download	Click **Download** to download the system information file.

34

Reset to Factory Default

34.1 Overview

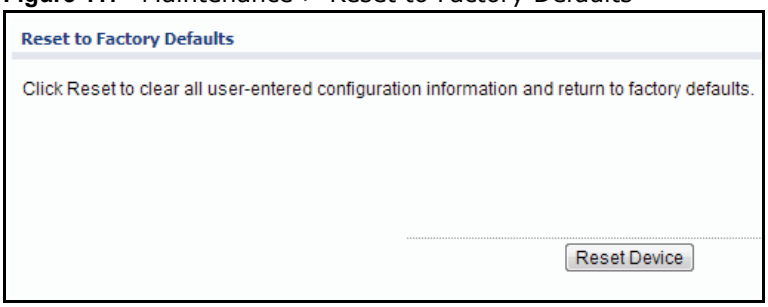
This chapter provides information for **Reset to Factory Defaults** in **Maintenance**.

34.2 Reset to Factory Defaults

The **Reset to factory Defaults** option allows you to reset the system configurations back to the original factory default settings. Click **Maintenance** > **Reset to Factory Defaults** to display the following screen.

Note: Current settings are deleted after initiating the **Reset to Factory Defaults** function.

Figure 117 Maintenance > Reset to Factory Defaults


Reset to Factory Defaults
Click Reset to clear all user-entered configuration information and return to factory defaults.
Reset Device

The following table describes the labels on this screen.

Table 84 Maintenance > Reset to Factory Defaults

LABEL	DESCRIPTION
Reset to Factory Defaults	
Reset Device	Click **Reset Device** to initiate the Factory Defaults function.

35

Firmware Upgrade

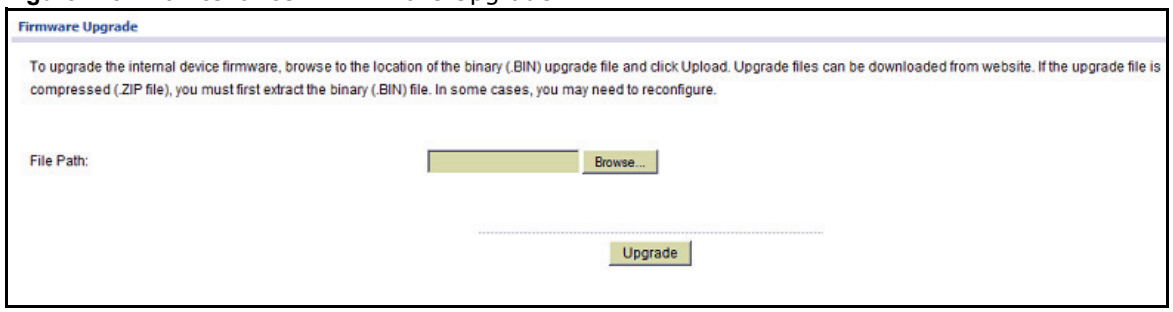
35.1 Overview

This chapter provides information for **Firmware Upgrade** in **Maintenance**.

35.2 Firmware Upgrade

The **Firmware Upgrade** is used to upgrade controller firmware. Click **Maintenance** > **Firmware Upgrade** to display the following screen.

Figure 118 Maintenance > Firmware Upgrade


Firmware Upgrade
To upgrade the internal device firmware, browse to the location of the binary (.BIN) upgrade file and click Upload. Upgrade files can be downloaded from website. If the upgrade file is compressed (.ZIP file), you must first extract the binary (.BIN) file. In some cases, you may need to reconfigure.
File Path:
Browse...
Upgrade

The following table describes the labels on this screen.

Table 85 Maintenance > Firmware Upgrade

LABEL	DESCRIPTION
Firmware Upgrade	
File Path	Displays the current path of the selected file in **Choose File**.
Choose File	Click **Choose File** to select a local file (firmware).
Upgrade	Click **Upgrade** to initiate the upgrade process.

Note: The firmware file must be a BIN file, such as "xxxx.bin".

36

Reboot

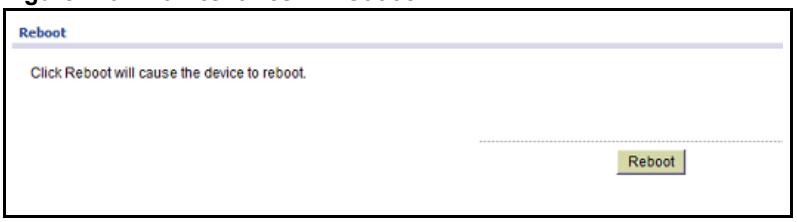
36.1 Overview

This chapter provides information for **Reboot** in **Maintenance**.

36.2 Reboot

The **Reboot** option is used to reboot the system. Click **Maintenance** > **Reboot** to display the following screen.

Figure 119 Maintenance > Reboot



The following table describes the labels on this screen.

Table 86 Maintenance > Reboot

LABEL	DESCRIPTION
Reboot	
Reboot	Click **Reboot** to restart the device.

37

Shutdown

37.1 Overview

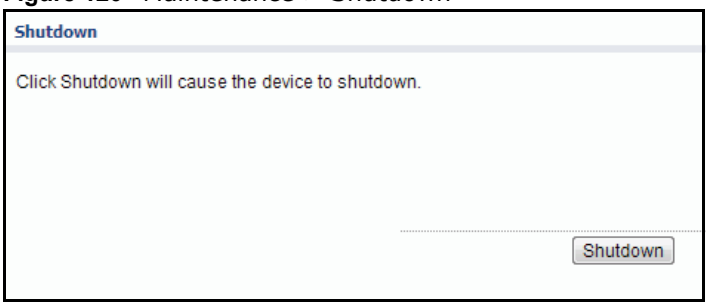
This chapter provides information for **Shutdown** in **Maintenance**.

37.2 Shutdown

The **Shutdown** option is used to shutdown the system. Before powering off the system, it is highly recommended to execute **Shutdown** function to flush the data from cache onto the physical disks. The step is important for data protection.

Click **Maintenance** > **Shutdown** to display the following message.

Figure 120 Maintenance > Shutdown



The following table describes the labels on this screen.

Table 87 Maintenance > Shutdown

LABEL	DESCRIPTION
Shutdown	
Shutdown	Click **Shutdown** to power off the device.

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